CRPL-F38

IONOSPHERIC DATA

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PREPARED BY CENTRAL RADIO PROPAGATION LABORATORY
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CRPL-F 38

CENTRAL RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
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CONTENTS

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology" in report IRPL-F5.

Beginning with IRPL-F14 the symbol L, defined as follows, is used in detailed tabulations of hourly values of ionosphere characteristics observed at Washington:

L or l = critical frequency, muf, or muf factor for F1 layer omitted because no definite and abrupt change in slope of the h'f curve occurs either for the first reflection or for any of the multiples.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values for each hour of the day for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 January 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the CRPL, for the Canadian stations, and for all others sending to the CRPL detailed tabulations from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The monthly median values used here are the values equaled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:
Values missing because of A, B, C, or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:
Values of f^oF2 (and f^oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.
Values missing because of D are counted as equal to or greater than the upper limit of the recorder.
Values missing because of G are counted:
1. For f^oF2, as equal to or less than f^oF1.
2. For h'F2, as equal to or greater than the median.
Values missing for any other reason are omitted from the median count.

c. For muf factors (M-factors):

Values missing because of G are counted as equal to or less than the median.
Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the median f°E, or equal to or less than the lower frequency count of the recorder.
Values of fEs missing for any other reason, and values of hEs missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

Beginning with CRPL-F33, an additional group of symbols is used in recording the Washington, D. C. data. The list of additional symbols and their meanings follows:

N - unable to make logical interpretation.
P - trace extrapolated to a critical frequency.
Q - the F1 layer not present as a distinct layer.
R - curve becomes incoherent near the F2 critical frequency.
S - no observation obtainable because of interference.
V - forked record (previously denoted by U. This change should also be made in CRPL-7-1).
Z - triple split near critical frequency.

For a more detailed explanation of the meaning and use of these symbols, see the report CRPL-7-1, Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records.

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 81 and figures 1 to 127 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL predictions of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,
Radio Research Board:
- Brisbane, Australia
- Canberra, Australia
- Cape York, Australia
- Hobart, Tasmania
- Townsville, Australia

Australian Department of Supply and Shipping, Bureau of
Mineral Resources, Geophysical Section:
- Watheroo, W. Australia

British Department of Scientific and Industrial Research,
Radio Research Board:
- Slough, England

Canadian Radio Wave Propagation Committee:
- Churchill, Canada
- Clyde, Baffin I.
- Ottawa, Canada
- Portage la Prairie, Canada
- Prince Rupert, Canada
- St. John's, Newfoundland

New Zealand Radio Research Committee:
- Campbell I.
- Christchurch, New Zealand (Canterbury University College Observatory)
- Fiji Is.
- Kermadec Is.
- Rarotonga I.

South African Council for Scientific and Industrial Research:
- Capetown, Union of S. Africa
- Johannesburg, Union of S. Africa

Scientific Research Institute of Terrestrial Magnetism, Moscow, U.S.S.R.:
- Alma Ata, U.S.S.R.
- Bay Tiksey, U.S.S.R.
- Bukhta Tikhaya, U.S.S.R.
- Chita, U.S.S.R.
- Leningrad, U.S.S.R.
- Moscow, U.S.S.R.
- Sverdlovsk, U.S.S.R.
- Tomsk, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism):
Huancayo, Peru

United States Army Signal Corps:
Fukaura, Japan
Okinawa I.
Shibata, Japan
Tokyo, Japan
Wakkanai, Japan
Yamakawa, Japan

National Bureau of Standards (Central Radio Propagation Laboratory):
Adak, Alaska
Baton Rouge, Louisiana (Louisiana State University)
Boston, Massachusetts (Harvard University)
Fairbanks, Alaska (University of Alaska, College, Alaska)
Guam I.
Maui, Hawaii
Palmyra I.
San Francisco, California (Stanford University)
San Juan, Puerto Rico (University of Puerto Rico)
Trinidad, British West Indies
Washington, D. C.
White Sands, New Mexico
Wuchang, China (National Wuhan University)

All India Radio (Government of India), New Delhi, India:
Bombay, India
Delhi, India
Madras, India
Peshawar, India

Indian Council of Scientific and Industrial Research,
Radio Research Committee:
Calcutta, India

Radio Wave Research Laboratory, Central Broadcasting Administration:
Chungking, China
Lanchow, China
Peiping, China

French Ministry of Naval Armaments (Section for Scientific Research):
Fribourg, Germany

National Laboratory of Radio-Electricity (French Ionospheric Bureau):
Bagneux, France

Philippine Republic, Department of National Defense:
Leyte, Philippine Is.

Norwegian Defense Research Establishment, Florida, Bergen, Norway:
Tromso, Norway

Beginning with CRPL-F26, publication of tables of so-called "provisional data" reported to the CRPL by telephone or telegraph was discontinued. The reason for this change in policy is that users of the data hitherto published in this form receive them through established channels sooner than through the F-series. Furthermore, having two sets of data, "provisional" and "final," for the same station for the same month leads to confusion.

It must be emphasized that there is no change in the methods used for rapid reporting and exchange of data. The change has to do only with the printing of provisional data in the F-series.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when f^oF2 is less than or equal to f^oF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts.

Month	Predicted Sunspot No.	Month	Predicted Sunspot No.
September 1947	121	September 1946	79
August 1947	122	August 1946	77
July 1947	116	July 1946	73
June 1947	112	June 1946	67
May 1947	109	May 1946	67
April 1947	107	April 1946	62
March 1947	105	March 1946	51
February 1947	90	February 1946	46
January 1947	88	January 1946	42
December 1946	85	December 1945	38
November 1946	83	November 1945	36
October 1946	81	October 1945	23

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in tables 82 to 93 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Terminology and Scaling Practices."

IONOSPHERE DISTURBANCES

Table 94 presents ionosphere character figures for Washington, D.C., during September 1947, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, magnetic K-figures, which are usually covariant with them.

Table 95 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at the Sterling Radio Propagation Laboratory during September 1947.

Table 96 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England, receiving stations of Cable and Wireless Ltd. from August 23 to September 11, 1947.

Table 97 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, August 1947, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures for the North Atlantic are prepared from radio traffic and ionospheric data reported to the CRPL, in the manner described in detail in report IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued 1 February 1946.

The radio propagation quality figures for the North Pacific are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner similar to that of IRPL-R31. The master scale of IRPL-R31 was used to formulate conversion scales for the North Pacific reports. Beginning with CRPL-F23, issued July 1946, the North Pacific radio propagation quality figures reported are prepared from these revised conversion scales.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics, such as are particularly evident in the pronounced day and night

contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic, or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half day in either of the two general areas.

AMERICAN AND ZÜRICH PROVISIONAL RELATIVE SUNSPOT NUMBERS

Table 98 presents the daily median values of relative sunspot numbers as reported by American observers for September 1947. The reports have been reduced, by appropriate constants, approximately to the Zürich scale of relative sunspot numbers. The monthly relative sunspot number is the mean of the daily median values listed in the table. This method was devised by Mr. A. H. Shapley, while a member of the staff of the Department of Terrestrial Magnetism, Carnegie Institution of Washington. Details will be found in his article, "American Observations of Relative Sunspot Numbers in 1945 for Application to Ionospheric Prediction," Popular Astronomy, vol. 54, No. 7, pp. 351-358. The criteria for A observers have been modified slightly, beginning with September 1946. In order for an observer's report to be included in the American sunspot numbers, the mean deviation of the reduction factors for his observations for the four preceding months must have been within 15% of the 4-month running mean of his reduction factors, rather than within an interval of ±0.16 of that running mean. This avoids favoring observers with small reduction factors and discriminating against observers with large reduction factors. In addition sunspot numbers must have been reported for at least one-half of the month during three-quarters of the preceding year. This will tend to restrict the observers to those whose observations are consistent from month to month without rejecting the work of observers for whom weather conditions are unsatisfactory for observations during some months of the year.

In addition, table 98 lists the daily provisional Zürich sunspot numbers. The first issue in which these numbers appear is CRPL-F35.

SOLAR CORONAL INTENSITIES OBSERVED AT CLIMAX, COLORADO

In table 99 the intensities of the green (λ 5303A), first red (λ 6374A), and second red (λ 6704A) lines of the solar corona as observed during September 1947, by the High Altitude Observatory of Harvard University and the University of Colorado at Climax, Colorado, are given for every 5° measured from astronomical north positively through the east for each day on which observations were possible. An arbitrary intensity-scale of approximately 0 to 40 is used. To convert from astronomical north and to determine the positions relative to the solar rotational equator, subtract the algebraic value of the position-angle of the solar axis. This quantity varies from -26 to +26 degrees during the year, and is tabulated in the nautical almanacs. If observations are uncertain, the initials l.w. (low weight) follow the date. The time of observation in hours GCT is listed. Dashes indicate that the intensity for that position is below the observable threshold. Absence of observation made at a given position is indicated by X.

NOTE ON CONVENTIONS FOR USE OF SYMBOL E

Since there has been some confusion in ionospheric data reports regarding the use of the symbol E, "characteristic less than the lower limit of the recorder," the following conventions have been established for CRPL and its field stations, and are called to the attention of other laboratories. In regard to minimum virtual heights, the conventions will provide a monthly median value of maximum usefulness in application to transmission problems.

The symbol E is used to describe ionospheric records of two general types: (1) the layer is known to be regularly present, but the critical frequency (ordinary wave) is less than the lower frequency limit of the recorder; and (2) the critical frequency and part of the h'f curve of the layer are visible above the lower frequency limit of the recorder, but the slope of the curve at the lower frequency limit is appreciably positive.

Type (1) applies specifically to the F2 layer and may occasionally apply to the E layer near sunrise and sunset. Otherwise, the conditions are not fulfilled, except in rare instances. When type (1) is applicable, the critical frequency of the layer is described by the letter E alone (except where a doubtful numerical value may be deduced from the measured extraordinary wave critical frequency) and in the median count is considered equal to or less than the limiting frequency of the recorder. The minimum virtual height is also described by the symbol E alone and is considered equal to or greater than the median. The symbol E stands by itself on the tabulation sheets only in instances of type (1).

Type (2) may apply to any layer. The symbol E obviously cannot be applied to the critical frequency, however. The minimum virtual height of the layer is recorded as the virtual height of the layer measured at the lower frequency limit of the recorder. This value is entered on the tabulation sheet and the letter E is appended. In the median count the presence of the symbol E is ignored, and the usual conventions for counting medians are followed. However, if more than half of the entries in the median count are from type (1) and (2) records, the median is considered doubtful.

If, because of equipment difficulties, the minimum virtual height of a layer should be measured below the lower height limit of the recorder, the symbol C is the proper description.

Henceforth, medians received from laboratories reporting to CRPL will be recalculated in accordance with these conventions prior to publication in the CRPL-F series.

ERRATUM

Calibration of the height scale at San Francisco, California, necessitated the issue of new tables of virtual heights and F2 muf factors for the months of March through July 1947. These tables are numbered 77 through 81 of this issue. Corresponding changes should be made in figures 11 and 12, 15 and 16, 19 and 20, 20 and 21, and 15 and 16 of CRPL-F33, 34, 35, 36, and 37, respectively.

TABLES AND GRAPHS
OF
IONOSPHERIC DATA

Table 1

Washington, D.C. (39.0°N, 77.5°W) September 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	(5.8)						(2.6)
01	280	(5.8)						(2.6)
02	280	5.5						2.6
03	280	(4.9)						(2.6)
04	300	4.3						2.6
05	285	4.5						2.6
06	270	5.4			100	(1.9)		2.9
07	250	7.8	240		100	2.7		3.1
08	270	8.9	230	4.4	100	3.2		3.2
09	270	9.8	220	4.9	100	3.6	3.4	3.0
10	290	10.4	210	5.2	100	3.8		2.9
11	300	10.3	210	5.3	100	3.9		2.8
12	330	10.6	205	5.4	100	4.0		2.8
13	340	10.4	220	5.4	100	4.0		2.7
14	350	10.6	220	5.4	100	3.8		2.7
15	335	10.6	230		100	3.7		2.7
16	315	10.2	230	5.1	100	3.3		2.7
17	270	(10.2)	240		110	2.7		(2.7)
18	250	(9.7)			100	2.0		(2.9)
19	240	(9.1)						2.8
20	250	8.0						2.7
21	250	7.2						2.7
22	270	(6.8)						(2.6)
23	280	6.2						2.6

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Clyde, Baffin I. (70.5°N, 68.6°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	5.2						
01	300	4.8						
02	315	4.6						
03	310	5.0						
04	310	5.1						
05	390	5.4						
06	380	5.4						
07	450	5.2						
08	500	5.5						
09	490	5.5						
10	520	5.7						
11	490	5.6						
12	450	5.8						
13	440	5.2						
14	485	5.7						
15	500	5.5						
16	520	5.5						
17	435	5.6						
18	380	5.4						
19	350	5.6						
20	300	5.7						
21	300	5.4						
22	300	5.2						
23	300	5.0						

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	400	4.8					5.6	2.4
01	390	4.8					6.2	2.4
02	418	5.3					5.9	2.5
03	382	5.4					5.3	2.5
04	410	5.6		3.6		2.3	5.5	2.5
05	402	5.6		4.1		2.6	5.5	2.5
06	410	6.2	260	4.5		3.0	5.4	2.5
07	440	6.2	250	4.7		3.3	4.2	2.5
08	462	6.3	240	4.8		3.3	3.4	2.4
09	512	6.1	240	4.8		3.5	3.4	2.4
10	522	6.2	235	5.0		3.5	3.4	2.4
11	512	6.4	240	5.0		3.6	3.3	2.4
12	510	6.1	240	5.1		3.6	3.2	2.4
13	530	6.0	240	5.0		3.6	3.4	2.4
14	495	6.0	242	5.0		3.4	3.2	2.4
15	480	6.2	245	5.0		3.3	3.2	2.4
16	435	6.4	245	5.0		3.2	3.2	2.5
17	360	6.5	260	4.5		3.0	3.2	2.6
18	290	6.1	262	3.6		2.6	3.0	2.7
19	280	5.8				2.3	3.3	2.8
20	310	5.4				1.9	3.3	2.6
21	318	4.7				1.6	4.9	2.7
22	330	4.2				1.6	4.0	2.6
23	370	4.6					5.5	2.4

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 4

Churchill, Canada (58.8°N, 94.2°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	310	5.2					6.2	2.6
01	340	5.3					4.6	2.6
02	300	4.5					3.7	2.6
03	350	4.0					3.8	2.6
04	335	4.9					3.4	2.6
05	340	5.1	280	3.8	130	2.8	3.4	2.6
06	440	5.2	260	3.9	130	3.0		2.4
07	450	5.8	260	4.4	120	3.5		2.5
08	450	6.2	260	5.0	115	3.6		2.5
09	465	6.3	250	5.0	120	3.6		2.3
10	510	6.6	240	5.1	120	3.6		2.4
11	505	6.6	240	5.2	115	3.4	3.5	2.4
12	490	6.9	250	5.3	120	3.5	3.3	2.4
13	490	6.8	240	5.4	120	3.7	3.3	2.4
14	470	7.1	240	5.2	120	3.6	2.6	2.4
15	460	7.0	240	5.2	130	3.6		2.4
16	450	6.8	240	5.0	130	3.4		2.3
17	405	6.8	245	4.8	125	3.2		2.5
18	355	6.4	270	4.4	130	3.1		2.6
19	350	5.8	295	4.0	130	3.2	2.9	2.6
20	335	5.8			120	3.1	3.8	2.6
21	350	5.2			130	3.0	4.0	2.6
22	350	5.0					4.9	2.6
23	320	5.0					5.0	2.6

Time: 90.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 5

Prince Rupert, Canada (54.3°N, 130.3°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	320	4.1					3.1	2.6
01	335	3.8					2.7	2.5
02	360	3.8					3.4	2.5
03	365	3.6					3.5	2.5
04	345	3.6					3.8	2.5
05	340	4.0				E	4.0	2.6
06	400	4.9	280	3.7	120	2.2	3.8	2.6
07	430	5.4	260	4.2	120	2.7	4.2	2.5
08	500	5.7	240	4.5	110	3.1	4.2	2.4
09	500	5.8	235	4.8	110	3.4	4.1	2.4
10	495	6.1	230	5.0	110	3.6	4.0	2.4
11	500	6.1	220	5.2	110	3.7	4.1	2.4
12	500	6.2	230	5.2	110	3.8	4.0	2.4
13	520	6.2	230	5.3	110	3.8	4.0	2.3
14	510	6.5	230	5.3	110	3.8	4.0	2.4
15	490	6.6	230	5.2	110	3.7	4.1	2.4
16	470	6.6	240	5.1	110	3.6	4.0	2.5
17	410	6.4	250	4.9	110	3.3	4.1	2.5
18	380	6.6	250	4.5	120	3.0	4.0	2.6
19	310	6.5	270	4.2	120	2.5	3.4	2.7
20	280	6.4			130	1.9	2.6	2.7
21	270	5.9					2.1	2.7
22	280	5.4					2.6	2.7
23	300	4.9					2.3	2.6

Time: 120.0°W.
Sweep: Manual operation.

Table 6

Adak, Alaska (51.9°N, 176.6°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	320	5.6					2.3	2.5
01	315	4.9						2.5
02	340	4.3						2.5
03	360	4.0						2.3
04	350	3.5						2.4
05	330	4.8	320	3.1	110	(2.0)		2.6
06	380	6.3	260	(3.8)	110	2.5		2.6
07	400	7.2	230	(4.3)	100	3.0	3.4	2.6
08	410	7.7	230	5.0	100	3.5	4.2	2.6
09	420	7.8	220	5.3	100	(3.6)	5.0	2.6
10	430	7.8	230	5.6	100	3.9	4.3	2.6
11	410	7.6	220	5.7	100	(4.0)		2.6
12	425	8.0	215	5.8	110	(3.9)		2.6
13	400	7.8	220	5.8	100	(3.8)		2.6
14	400	7.5	220	5.6	100	3.7	3.7	2.7
15	365	7.3	220	5.2	100	(3.5)	3.7	2.7
16	330	7.3	230	(5.3)	100	3.4	3.5	2.8
17	$\boxed{300}$N	$\boxed{7.4}$N	$\boxed{240}$N	(5.0)	100	(3.0)	3.3	2.8
18	270	7.4	250		110	2.5	3.4	2.9
19	270	6.6			110		3.4	2.9
20	270	6.4					2.4	2.7
21	270	6.3					2.4	2.6
22	300	5.9						2.6
23	300	5.8						2.6

Time: 180.0°W.
Sweep: 1.2 Mc to 15.5 Mc in 12 minutes. Manual operation.

Table 7

Portage la Prairie, Canada (49.9°N, 98.3°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	315	5.0					2.5	2.4
01	340	4.5					3.4	2.4
02	320	4.2					3.4	2.4
03	320	4.0					2.8	2.4
04	310	4.0					2.6	2.4
05	300	4.6			120	E	2.0	2.6
06	260	4.9			110	2.4		2.7
07	250	5.5	(240)	4.4	110	2.8		2.6
08	390	6.1	230	4.8	100	3.2		2.6
09	455	6.2	220	5.0	100	3.6		2.5
10	465	6.4	220	5.3	100	3.8		2.4
11	500	6.8	220	5.4	100	3.8		2.4
12	490	6.7	220	5.4	100	4.0		2.4
13	500	6.7	220	5.4	100	3.9		2.4
14	500	6.9	220	5.4	100	3.8		2.4
15	490	6.8	220	5.2	100	3.8		2.4
16	450	6.6	220	5.2	100	3.4		2.4
17	420	6.8	230	4.8	100	3.2		2.5
18	310	6.9	240	(4.6)	110	2.8		2.6
19	250	6.8			110	2.4		2.6
20	270	6.8					2.4	2.6
21	250	6.4					2.1	2.6
22	270	5.9						2.6
23	300	5.2					2.1	2.4

Time: 90.0°W.
Sweep: 1.0 Mc to 16.0 Mc in 2 minutes 30 seconds.

Table 8

St. John's, Newfoundland (47.6°N, 52.7°W) August 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	5.0					2.4	2.7
01	270	4.9					2.0	2.6
02	270	4.2					2.2	2.6
03	280	4.4					2.4	2.6
04	260	4.2					1.9	2.6
05	240	4.9			100	1.9	2.2	3.1
06	230	5.6	225	4.0	90	2.4	3.0	3.2
07	265	6.2	220	4.5	90	2.8	3.7	3.3
08	295	6.4	210	4.6	100	3.3	4.0	3.2
09	320	6.6	200	5.0	100	3.4	3.6	3.0
10	320	6.7	200	5.4	90	3.8	4.4	3.0
11	415	7.0	200	5.4	90	3.9	4.2	2.8
12	410	6.8	200	5.7	90	3.9	3.9	2.8
13	410	6.9	210	5.8	90	3.9	4.0	2.8
14	410	7.2	210	5.6	90	3.8	4.0	2.8
15	400	7.1	210	5.4	90	3.6	3.7	2.8
16	330	7.4	210	5.2	90	3.4	3.6	2.9
17	315	7.4	210	4.8	90	3.2	3.6	3.0
18	295	7.6	220	4.1	90	2.8	3.2	3.0
19	240	7.6		3.2	100	2.1	2.7	3.0
20	240	8.0					2.2	2.9
21	240	7.2					1.6	2.8
22	250	6.3					1.6	2.8
23	260	5.3					1.4	2.8

Time: 52.5°W.
Sweep: 1.2 Mc to 20.0 Mc. Manual operation.

Table 9

Ottawa, Canada (45.5°N, 75.8°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	350	5.3						2.5
01	360	4.6						2.6
02	350	4.4						2.6
03	360	4.4						2.6
04	350	4.0						2.6
05	310	4.8						2.7
06	290	6.0	240	4.1				2.7
07	300	6.4	250	4.5	120	2.8		2.7
08	300	6.7	235	5.0	110	3.3		2.7
09	350	6.8	230	5.2	110	3.5		2.7
10	405	7.0	220	5.4	110	3.5		2.4
11	400	6.8	220	5.6	110	3.8		2.5
12	385	7.1	230	5.7	110	3.6		2.5
13	370	7.2	230	5.6	110	3.7		2.5
14	380	6.9	240	5.6	110	3.7		2.5
15	400	6.9	240	5.0	110	3.5		2.4
16	370	7.4	245	5.2	120	3.2		2.5
17	340	6.9	250	4.5	120	2.9		2.5
18	310	7.0	260	3.9	130	2.5		2.6
19	300	7.2						2.6
20	310	6.8						2.6
21	310	6.8						2.6
22	325	6.6						2.6
23	330	6.0						2.6

Time: 75.0°W.
Sweep: 1.7 Mc to 18.0 Mc. Manual operation.

Table 10

Boston, Massachusetts (42.4°N, 71.2°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	5.6						2.5
01	330	5.5					1.2	2.5
02	330	5.1					1.6	2.4
03	330	4.6					1.3	2.5
04	310	4.3						2.5
05	320	4.3			120	2.2		2.6
06	350	5.6			125	2.8		2.8
07	365	6.4	280	4.8	122	3.2		2.7
08	350	6.8						2.7
09	350	(7.4)						(2.7)
10	350	(7.8)						(2.8)
11	375	(8.2)						(2.7)
12	400	(9.0)						(2.7)
13								
14	370							
15	370		260	5.2				(2.7)
16	330	(8.2)	260	5.1				(2.7)
17	350	7.9	280	4.9				2.6
18	300	7.4			125	2.4		2.6
19	300	7.0						2.6
20	300	6.9						2.6
21	300	6.3						2.6
22	310	6.6						2.5
23	310	6.1						2.5

Time: 75.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 1 minute.

Table 11

San Francisco, California (37.4°N, 122.2°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340	5.5					2.3	2.3
01	320	5.3					2.1	2.3
02	320	5.3					2.0	2.4
03	320	5.2						2.4
04	330	5.1					2.3	2.4
05	330	4.8						2.4
06	280	6.1	300	3.4	120	2.2	2.0	2.6
07	320	7.2	260	4.2	120	2.8		2.5
08	360	8.1	240	5.1	110	3.3		2.4
09	410	8.3	230	5.4	110	3.6	3.9	2.3
10	390	9.0	220	5.6	110	3.8		2.3
11	420	9.6	220	5.8	110	3.7		2.4
12	420	9.7	220	5.8	110	3.9		2.4
13	410	9.3	230	5.7	110	3.8		2.4
14	440	8.8	230	5.6	110	3.8		2.4
15	420	8.4	240	5.6	110	3.7		2.4
16	410	8.3	240	5.4	110	3.4		2.5
17	340	8.3	250	5.1	110	3.2		2.6
18	260	7.9			120	2.5		2.6
19	260	7.3					2.5	2.7
20	260	7.0					2.6	2.6
21	260	6.5						2.5
22	295	5.9					2.3	2.4
23	320	5.5					2.4	2.4

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.

Table 12

White Sands, New Mexico (32.6°N, 106.5°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	310	6.0					2.6	2.4
01	315	5.8					2.5	2.5
02	300	5.7					2.6	2.6
03	300	5.6					2.5	2.5
04	310	5.4					3.1	2.5
05	320	5.3					3.4	2.5
06	290	6.2	290				3.8	2.7
07	300	7.6	250	4.6	110	3.2	4.4	2.8
08	340	8.2	230	4.8	110	3.5	4.4	2.6
09	350	9.2	220	5.4	110	3.7	4.6	2.6
10	410	9.5	220	5.7	110	3.9	4.8	2.6
11	390	9.8	220	5.7	115	4.2	4.7	2.6
12	380	10.0	220	5.8	120	4.0	4.8	2.6
13	390	10.0	230	5.7	110	4.0	4.7	2.7
14	360	9.5	220	5.6	110	4.0	4.2	2.7
15	365	9.8	230	5.5	110	3.8	4.4	2.7
16	350	9.2	230	5.5	110	3.6	4.5	2.6
17	335	9.0	250	5.2	120	3.3	4.4	2.8
18	280	8.1	270		120	2.7	3.7	2.8
19	275	7.6					3.2	2.8
20	265	6.8					3.0	2.7
21	280	6.6					2.9	2.6
22	300	6.2					2.9	2.5
23	310	6.0					3.0	2.5

Time: 105.0°W.
Sweep: 0.79 Mc to 14.0 Mc in 2 minutes.

Table 13

Wuchang, China (30.6°N, 114.4°E) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	9.0					3.3	2.8
01	270	8.5					3.4	2.8
02	265	8.2					2.6	2.8
03	260	7.6					2.2	2.8
04	260	7.2					1.9	2.8
05	260	6.5					2.4	2.8
06	250	7.7			100	1.8		3.0
07	230	8.8			100	2.7		3.1
08	240	9.2	220	6.0	100	3.3		3.0
09	292	9.2	220	6.6	100	3.8	4.9	2.9
10	315	9.6	220	6.8	100	4.0		2.8
11	320	10.2	225	6.4	100	4.2	4.5	2.9
12	362	11.3	220	6.3	100	4.3		2.8
13	352	11.7	220	6.4	100	4.2		2.8
14	345	11.8	232	6.2	100	4.2		2.8
15	330	11.6	232	6.0	100	4.0	4.8	2.9
16	322	11.8	230	6.0	100	3.6	5.0	2.8
17	295	11.6	232	5.8	100	3.3	4.7	3.0
18	255	12.0	250	5.5	100	2.6	4.7	3.0
19	250	12.0			100	1.9	4.1	3.0
20	250	10.3					3.3	2.8
21	265	9.5					3.3	2.8
22	275	9.4					2.7	2.8
23	280	9.0					3.0	2.8

Time: 120.0°E.
Sweep: 1.2 Mc to 19.2 Mc. Manual operation.

Table 14

Baton Rouge, Louisiana (30.5°N, 91.2°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	6.3					2.1	2.6
01	340	6.2						2.7
02	315	6.0						2.6
03	320	5.7						2.6
04	320	5.5						2.6
05	305	5.6						2.7
06	295	6.8	(290)		130	2.2		3.0
07	300	7.5	260	4.2	120	3.0	3.5	2.8
08	310	9.0	250	5.2	120	3.4		2.8
09	375	9.4	245	5.4	120	3.8		2.7
10	390	9.7	240	5.5	120	3.8		2.7
11	440	10.3	250	6.0	120	3.8		2.6
12	410	10.5	250	5.7	120	3.8		2.6
13	400	11.0	250	5.9	120	3.9		2.5
14	440	10.3	250	5.7	120	3.9		2.6
15	425	9.9	255	5.6	120	3.8		2.6
16	380	9.0	250	5.1	120	3.6		2.7
17	355	8.0	250	4.5	120	3.0	4.2	2.8
18	340	8.0			130	2.4	4.0	2.8
19	280	7.8					3.8	2.7
20	300	7.3						2.7
21	305	6.8						2.7
22	315	6.5						2.7
23	325	6.5					2.8	2.6

Time: 90.0°W.
Sweep: 2.0 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 15

Maui, Hawaii (20.8°N, 156.5°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	10.2					2.1	2.6
01	260	8.6						2.8
02	250	7.8						2.7
03	260	6.7						2.7
04	290	6.5						2.8
05	260	5.6						2.6
06	280	6.1			100	1.5	2.7	2.7
07	240	7.9			100	2.7	3.9	3.1
08	220	9.0	230	6.0	100	3.3	3.9	3.0
09	245	9.8	220	5.7	100	3.7	4.8	2.6
10	350	11.2	210	6.4	100	4.0	4.6	2.4
11	370	11.8	210	6.4	100	4.4	4.8	2.5
12	380	12.3	210	6.3	100	4.3		2.5
13	385	13.0	220	6.4	100	4.3		2.5
14	375	13.2	220	6.3	100	4.2		2.6
15	340	13.4	215	6.1	100	4.2	3.4	2.7
16	320	13.2	220	6.1	100	3.9	4.8	2.7
17	250	12.7	210	5.8	100	3.4	4.9	2.8
18	240	12.1			100	2.8	4.5	2.8
19	250	11.6					3.9	2.7
20	260	11.8					4.0	2.6
21	260	10.6					3.3	2.6
22	260	10.4					2.8	2.7
23	265	10.3					2.6	2.7

Time: 150.0 W.
Sweep: 1.2 Mc to 18.0 Mc in 15 minutes, manual operation; starting August 15, 2.2 Mc to 16.0 Mc in 1 minute 30 seconds, automatic operation.

Table 16

San Juan, Puerto Rico (18.4°N, 66.1°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		9.0						2.6
01		8.6						2.7
02		7.9						2.7
03		7.6						2.6
04		7.3						2.7
05		6.5						2.7
06		6.9						2.7
07	300	8.1		(2.9)				2.7
08	300	8.6				3.1		2.7
09	340	9.4				3.5		2.6
10	360	10.2				3.7		2.6
11	395	10.8				3.9		2.5
12	400	11.2				4.0		2.5
13	410	11.2				4.2		2.4
14	410	11.0				4.0		2.5
15	400	11.0				3.8		2.5
16	390	10.8		5.4		3.5		2.4
17	370	10.2				3.1		2.5
18	350	9.9						2.5
19	340	9.2						2.6
20		8.6						2.6
21		8.5						2.5
22		8.5						2.5
23		8.4						2.6

Time: 60.0°W.
Sweep: 2.8 Mc to 13.0 Mc in 8 minutes, supplemented occasionally by manual operation.

Table 17

Trinidad Brit. West Indies (10.6°N, 61.2°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	9.8						2.7
01	280	9.2						2.7
02	270	8.6						2.7
03	270	8.0						2.7
04	280	7.4						2.8
05	280	7.0						2.7
06	280	7.4					2.2	2.9
07	250	8.4			120	2.6	3.2	3.0
08	240	9.5			120	3.4	4.2	2.8
09	250	10.0	240	6.0	120	3.8	4.4	2.6
10	360	11.1	230	6.2	120	4.1	4.6	2.5
11	360	12.0	240	6.4	120	4.3	4.8	2.6
12	380	12.0	240	6.4	120	4.3	5.0	2.5
13	400	12.4	240	6.5	120	4.4	5.6	2.5
14	380	12.0	240	6.2	120	4.2	5.8	2.5
15	380	11.6	240	6.3	120	4.0	5.6	2.5
16	380	11.1	250	6.1	120	3.6	5.2	2.5
17	300	10.5	260	5.7	120	3.1	4.8	2.5
18	285	10.2					4.0	2.5
19	300	10.0					3.6	2.5
20	320	10.2					2.4	2.4
21	320	10.4					2.2	2.4
22	300	10.2						2.6
23	300	10.3						2.6

Time: 60.0°W.
Sweep: 1.2 Mc to 15.5 Mc. Manual operation.

Table 18

Palmyra I. (5.9°N, 162.1°W) August 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	12.6					2.1	3.0
01	250	11.4					1.8	2.9
02	260	10.3					1.6	2.9
03	250	10.1					1.6	3.0
04	250	8.8					1.8	3.2
05	240	7.0					2.1	3.1
06	295	6.2			215	1.4	2.2	2.8
07	270	8.3			130	2.6	4.0	2.8
08	250	9.8			110	3.4	5.4	2.7
09	240	10.6	230		110	3.8	4.4	2.4
10	260	11.4	230	5.2	110	4.1		2.3
11	285	12.2	230	5.4	110	4.3		2.3
12	295	12.3	220	5.4	110	4.3		2.3
13	290	12.7	220	5.4	110	4.4		2.3
14	300	13.1	230		110	4.4		2.3
15	290	13.3	230	5.2	110	4.2		2.4
16	260	13.2	230		120	3.6		2.4
17	250	12.8			110	3.2	4.0	2.3
18	280	12.3			130	2.3	3.5	2.3
19	350	11.8					2.9	2.1
20	410	10.4					1.6	2.2
21	360	10.6						2.4
22	310	12.2					2.1	2.5
23	270	12.5					2.6	2.9

Time: 157.5°W.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 36 seconds; 11 Mc to 18.5 Mc, manual operation.

Table 19

Clyde, Baffin I. (70.5°N, 68.6°W) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.7						
01	295	5.4						
02	300	5.7						
03	310	5.4						
04	350	5.4						
05	400	5.4						
06	500	5.6						
07	480	5.6						
08	(520)	5.8						
09	(550)	(5.5)						
10	(535)	5.7						
11	(550)	(5.6)						
12	(500)	5.8						
13	570	5.7						
14	540	5.7						
15	530	5.8						
16	500	5.8						
17	480	5.8						
18	440	5.8						
19	400	5.6						
20	345	5.9						
21	330	5.6						
22	300	5.8						
23	300	5.6						

Time: 75.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 1.9 Mc to 13.0 Mc, manual operation.

Table 20

Churchill, Canada (58.8°N, 94.2°W) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	310	5.8					5.6	2.8
01	290	5.6					4.8	
02	310	5.4					3.6	2.7
03	300	5.8					3.6	2.6
04	325	5.4		3.5		2.6	3.1	2.6
05	340	5.6	240	4.0	130	2.8	3.3	2.7
06	435	5.6	240	4.6	120	3.1	2.7	2.6
07	475	6.0	235	4.8	110	3.4		2.5
08	450	6.6	240	5.1	105	3.6	3.4	2.5
09	470	6.6	240	5.2	110	3.7	3.2	2.5
10	505	6.4	230	5.3	105	3.6	3.5	2.4
11	500	6.6	230	5.3	120		3.5	2.4
12	490	6.8	225	5.4			3.6	2.4
13	480	7.0	230	5.4			3.7	2.4
14	485	7.0	230	5.4			3.6	2.4
15	450	7.3	230	5.3	110	3.6	3.4	2.4
16	440	7.0	240	5.1	110	3.5		2.5
17	430	7.0	240	5.0	115	3.4		2.5
18	430	6.4	250	4.6	120	3.2		2.5
19	390	6.1	265	4.2	120	3.2		2.6
20	340	6.3		2.8	130	2.8	3.3	2.6
21	300	5.9			140	2.8	3.8	2.5
22	290	6.2					7.6	2.6
23	325	5.6					9.2	

Time: 90.0°W.
Sweep: 2.2 Mc to 16.0 Mc in 1 minute; 2.0 Mc to 13.5 Mc, manual operation.

Table 21

St. John's, Newfoundland (47.6°N, 52.7°W) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	275	6.6					2.8	2.7
01	260	6.2					2.2	2.8
02	260	5.0					1.9	2.7
03	260	4.9					2.0	2.7
04	270	4.8					1.8	2.8
05	240	5.6	230	3.5	90	2.2	2.8	3.1
06	260	6.1	215	4.3	90	2.6	3.5	3.1
07	295	6.5	210	4.7	90	3.0	4.0	3.1
08	345	6.4	210	5.0	90	3.4	4.6	2.9
09	390	6.8	200	5.2	90	3.6	4.6	2.8
10	405	6.6	200	5.4	100	3.8	4.4	2.8
11	400	6.6	200	5.5	100	3.9	4.4	2.8
12	430	6.6	200	5.6	100	3.8	4.4	2.8
13	425	6.7	200	5.6	95	3.9	4.3	2.8
14	420	6.8	200	5.6	90	3.8	4.2	2.7
15	410	7.1	200	5.4	90	3.8	3.8	2.8
16	390	7.1	200	5.2	90	3.6	4.2	2.8
17	390	7.0	210	5.0	100	3.4	3.8	2.8
18	320	7.6	220	4.8	100	3.0	4.6	2.9
19	280	7.7	230	3.9	100	2.4	4.2	3.0
20	250	8.1					3.7	3.0
21	250	8.1					2.2	2.9
22	250	7.6						2.8
23	240	7.3					1.7	2.8

Time: 52.5 W.
Sweep: 1.2 Mc to 20.0 Mc. Manual operation.

Table 22

Wakkanai, Japan (45.4°N, 141.7°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	8.0					3.8	2.6
01	295	7.9					3.6	2.6
02	290	7.6					3.4	2.6
03	300	7.4					3.3	2.5
04	300	7.2					3.6	2.6
05	300	8.4				E	4.0	2.6
06	370	8.4			100	3.0	4.3	2.5
07	(300)	8.2			100	3.0	5.7	(2.6)
08	(360)	7.6			100	3.3	6.1	
09	(390)	(7.3)					5.8	
10	(465)	7.4					7.2	(2.3)
11	(455)	(7.5)					(8.0)	
12	(400)	(7.4)					5.8	
13	(390)	(7.6)					5.4	(2.6)
14	(400)	(7.6)					6.6	
15							6.2	
16	(375)	(7.3)					7.2	(2.6)
17	(330)	7.5					5.7	(2.8)
18	(300)	(7.7)					5.6	(2.6)
19	(300)	8.2				E	7.5	(2.9)
20	(270)	(8.3)					6.4	(2.8)
21	(290)	8.2					6.8	(2.7)
22	280	8.2					4.1	
23	300	8.1					4.4	2.5

Time: 135.0°E.
Sweep: 2.0 Mc to 17.0 Mc. Manual operation.

Table 23

Fukaura, Japan (40.6°N, 139.9°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	7.4					3.8	2.6
01	320	7.4					4.4	2.6
02	300	7.2					3.6	2.6
03	310	7.0					3.2	2.6
04	300	6.8					2.6	2.5
05	300	7.2				1.6	2.7	2.6
06	320	7.8			115	2.4	4.0	2.7
07	350	(7.5)					4.8	(2.8)
08	(300)	(6.9)					(5.3)	
09	(400)						(6.8)	
10		(7.2)					(6.4)	
11								
12	(420)	(7.2)					6.2	
13	(420)	(7.6)					5.8	
14	(435)	(7.5)					(5.3)	
15		(7.3)					(5.9)	
16	(435)	(7.0)					(5.1)	
17	355	7.6			120	2.7	5.8	(2.6)
18	350	7.6					4.4	(2.7)
19	305	7.4					5.7	2.7
20	315	7.3					5.8	2.7
21	320	7.2					5.0	2.6
22	320	7.3					5.0	2.5
23	330	7.4					4.5	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc. Manual operation.

Table 24

Peiping, China (39.9°N, 116.4°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		9.4						2.9
01		8.9						2.9
02		8.8						2.9
03		8.4						3.0
04		8.2						2.9
05		8.4						3.0
06		9.3						3.1
07		9.6						3.4
08								
09		10.0						3.1
10		10.7						(3.0)
11		10.6						(3.1)
12		11.0						3.0
13		10.8						3.1
14		11.0						3.1
15		11.0						3.0
16		10.7						3.0
17		10.2						3.2
18		10.3						3.1
19		10.0						3.0
20		10.0						3.0
21		10.0						3.0
22		(9.6)						2.9
23		9.8						2.9

Time: 120.0°E.
Sweep: 2.3 Mc to 12.3 Mc in 15 minutes. Manual operation.

Table 25

Shibata, Japan (37.9°N, 139.3°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	335	8.6					5.8	2.6
01	320	8.4					4.9	2.6
02	310	8.3					4.6	2.7
03	320	8.0					4.5	2.6
04	325	7.5					3.6	2.5
05	320	7.8	265		120	2.0	3.1	2.6
06	290	8.8	255		120	2.8	4.7	2.7
07	320	8.8	255		120	3.3	5.8	2.7
08	350	8.7	260		120	3.6	7.2	2.7
09	370	9.0	240		120	3.8	7.7	2.7
10	435	8.5	220	5.8	120	3.9	8.3	(2.5)
11	410	9.1	240	5.8	120	3.9	8.6	2.6
12	400	9.4	245	5.8	120	3.8	7.2	2.6
13	410	9.4	240	6.1	120	3.9	7.2	2.6
14	385	9.1	240	5.8	120	3.9	7.2	2.7
15	385	9.3	250	5.5	120	3.8	5.8	2.6
16	355	8.9	250	5.2	120	3.5	5.7	2.7
17	340	8.8	255	5.2	120	3.2	5.9	2.7
18	305	8.9	270		120	2.7	5.0	2.8
19	300	8.6					4.9	2.7
20	310	8.6					5.8	2.6
21	330	8.8					6.4	2.6
22	340	9.1					5.8	2.5
23	330	9.0					6.5	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes. Manual operation.

Table 26

Leyte, Philippine Is. (11.0°N, 125.0°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		9.3					2.6	2.6
01		8.7						2.8
02		8.6						2.9
03		7.9						3.0
04		6.9						3.0
05		6.4						2.9
06		8.4					3.3	2.9
07		9.9				3.6	5.0	2.7
08		10.7				4.1	7.8	2.4
09		11.0					8.0	2.2
10		11.2				4.4	7.5	2.2
11		11.5					<7.6	2.1
12		11.2					8.8	2.1
13		11.3					8.0	2.1
14		11.4					7.1	2.1
15		11.5				3.9	<6.0	2.1
16		11.4				3.5	6.2	2.1
17		10.9				2.8	4.6	2.1
18		10.3					3.4	2.1
19		9.6					2.9	2.1
20		8.6						2.1
21		8.7						2.1
22		8.5					2.6	2.3
23		9.2					2.6	2.5

Time: 120.0°E.
Sweep: 1.6 Mc to 16.0 Mc. Manual operation.

Table 27

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	(300)	2.9					2.2	2.9
01	(300)	2.8						2.9
02	290	2.9						3.0
03	270	2.8						3.1
04	260	2.6						3.0
05	(300)	2.5						2.9
06	275	2.8						3.1
07	230	6.0				2.0		3.2
08	220	9.1			110	2.7		3.4
09	230	10.3	210		100	3.3		3.3
10	240	11.0	210		100	3.6		3.2
11	250	11.1	200	4.8	100	3.8		3.1
12	270	11.1	205		100	(3.9)		3.0
13	280	11.0	200	6.0	100	3.8	4.0	2.9
14	290	11.0	200	6.1	100	3.7	4.2	2.9
15	270	10.8	220	5.2	100	3.5	3.9	2.9
16	240	10.8	230		100	3.0	3.4	2.9
17	230	10.2			110	2.4	3.2	3.1
18	210	9.0					3.0	3.1
19	210	6.7					2.6	3.2
20	230	5.4					2.3	3.3
21	230	4.2					2.1	(3.3)
22	250	3.4						3.2
23	270	3.0					2.2	3.0

Time: 30.0°E.
Sweep: 2.0 Mc to 15.0 Mc in 8 seconds.

Table 28

Christchurch, New Zealand (43.5°S, 172.7°E) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	4.8					3.2	2.6
01	290	4.8					3.4	2.7
02	300	4.8					3.6	2.7
03	295	4.7					3.4	2.8
04	280	4.5					3.3	2.8
05	260	4.0					3.0	2.9
06	270	3.6					2.7	2.9
07	260	4.6					2.7	3.0
08	230	8.2				2.1	2.7	3.3
09	230	10.0				2.6	3.0	3.2
10	230	11.2				3.0	4.4	3.1
11	230	12.1				3.2	4.4	3.0
12	250	12.7	230			3.3	4.4	3.0
13	250	12.7				3.3	4.4	3.0
14	240	11.4				3.1		2.9
15	240	11.4				2.8		3.0
16	240	10.5				2.3	2.6	3.0
17	230	10.0				1.4	2.6	3.0
18	230	8.0					2.6	2.9
19	250	7.0					2.6	2.9
20	250	6.3					2.6	2.8
21	260	5.6					2.6	2.8
22	270	5.1					2.6	2.7
23	290	5.0					3.4	2.7

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 29

St. John's, Newfoundland (47.6°N, 52.7°W) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	6.5F					2.4	2.7
01	275	5.2F					2.6	2.6
02	280	4.2F					2.7	2.6
03	290	3.8F					2.2	2.5
04	290	4.2F					2.4	2.6
05	270	5.0	230	4.1	100	2.2	2.6	2.9
06	300	5.4	220	4.3	90	2.8	3.4	3.0
07	360	5.6	210	4.6	90	3.2	3.6	2.9
08	410	6.0	210	5.1	100	3.5	4.7	2.7
09	400	6.3	210	5.3	100	3.7	4.5	2.9
10	420	6.7	210	5.6	100	3.8	4.7	2.7
11	410	6.6	210	5.6	100	3.8	4.6	2.7
12	415	6.7	205	5.6	100	4.0	4.4	2.8
13	450	6.6	200	5.6			4.4	2.6
14	420	6.8	200	5.6	90	3.8	4.0	2.7
15	420	7.0	210	5.4	100	3.7	4.0	2.7
16	400	7.0	210	5.4	100	3.6	3.8	2.7
17	345	7.3	210	5.2	100	3.4	3.8	2.8
18	315	7.4	220	4.7	100	3.0	4.3	2.9
19	280	7.6	240	4.0	100	2.4	3.6	2.9
20	260	7.6					3.0	2.9
21	250	7.8					2.2	2.8
22	250	7.5					2.2	2.7
23	250	7.2						2.7

Time: 52.5°W.
Sweep: 1.2 Mc to 20.0 Mc anual operation.

Table 30

Wakkanai, Japan (45.4°N, 141.7°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	8.0						2.5
01	300	7.8					2.5	2.5
02	300	7.7					2.9	2.5
03	300	7.6					2.6	2.5
04	300	7.7						2.4
05	345	8.0	250			E	3.4	2.5
06	345	8.2	250		100	3.0	4.6	2.5
07	365	8.1	250		100	3.4	5.8	2.5
08	420	7.8	280		110	3.6	6.4	2.4
09	460	7.7		5.6	120	3.7	5.8	2.4
10	450	7.8					6.1	2.4
11	420	7.6		5.7			5.8	2.5
12	420	7.8		(5.6)			6.3	2.5
13	410	7.6	(220)	5.5			5.4	2.6
14	440	7.6	240	5.6			5.2	2.5
15	410	7.7	250	5.5			6.3	2.6
16	390	8.2		5.2			6.0	2.5
17	360	7.9					6.2	2.7
18	320	7.8	225			2.7	5.4	2.6
19	300	8.0					5.2	2.7
20	300	8.0					4.7	2.5
21	300	8.1					3.9	2.5
22	300	8.4					3.6	2.6
23	300	8.2					3.2	2.5

Time: 135.0°E.
Sweep: 2.0 Mc to 17.0 Mc. Manual operation.

Table 31

Fukaura, Japan (40.6°N, 139.9°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	7.3					2.6	2.5
01	310	7.3					2.8	2.5
02	310	7.0					2.2	2.5
03	310	6.9					2.6	2.6
04	315	6.8					2.6	2.5
05	300	7.2			120	2.0	2.2	2.6
06	300	7.9			100	2.6		(2.6)
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19	310	7.2					5.3	2.6
20	320	7.3					5.2	2.6
21	350	7.3					6.2	2.4
22	330	7.2					5.0	2.5
23	330	7.2					3.6	2.5

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc. Manual operation.

Table 32

Shibeta, Japan (37.9°N, 139.3°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	320	8.2					3.8	2.6
01	315	8.2					2.9	2.6
02	305	8.0					3.2	2.6
03	305	7.4					3.2	2.6
04	320	7.4					2.9	2.5
05	300	7.9	270		110	2.1	2.5	2.6
06	305	8.6	250		120	2.8	3.6	2.7
07	310	9.0	230		115	3.2	5.6	2.7
08	400	8.7	235	5.6	110	3.6	7.0	2.6
09	400	8.8			110	3.8	7.4	(2.5)
10	410	9.5	230		110	4.0	7.8	(2.6)
11	(400)	9.5	220	5.9	120	3.9	8.5	2.5
12	400	8.8		6.0	110	4.0	8.0	(2.6)
13	405	9.2	220	6.1	110		6.0	2.6
14	415	8.5	250	6.0	120	3.8	5.8	2.6
15	410	8.7	230	5.6	115	3.7	5.4	2.6
16	355	9.0	240	5.1	110	3.6	5.0	2.7
17	345	8.9	250		110	3.2	4.9	2.8
18	320	8.2	250		115	2.6	6.2	2.8
19	320	7.9					5.4	2.7
20	325	7.9					5.8	2.6
21	350	8.6					6.4	2.5
22	365	8.6					6.8	2.5
23	330	8.6					5.6	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes. Manual operation.

Table 33

Lanchow, China (36.1°N, 103.8°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	360	9.2					4.5	2.3
01	360	9.2					4.0	2.4
02	340	8.8					4.4	2.4
03	340	8.0					3.6	2.3
04	360	8.0					3.3	2.3
05	340	8.0					3.3	2.3
06	300	9.2					4.0	2.4
07	300	9.8			140	3.3	4.8	2.4
08	325	10.0	280		130		5.0	2.5
09	369	11.0	260	6.4	130		6.0	2.4
10	395	11.0	270	6.4	120		5.6	2.3
11	430	11.0	275	6.2	130		5.5	2.3
12	430	11.0	270	6.4	120		3.8	2.3
13	420	12.0	280	6.3	130			2.3
14	440	12.0	260	6.4	140		5.2	2.3
15	420	11.0	270	6.2	130		5.6	2.4
16	480	10.5	260	5.8	120		4.7	2.4
17	380	11.0	260	5.6	120		5.0	2.4
18	360	11.0	280		120		5.8	2.4
19	340	11.0			120		5.0	2.5
20	320	9.6					4.8	2.5
21	320	9.0					3.8	2.4
22	360	9.0					4.5	2.3
23	360	9.2					4.6	2.3

Time: 105.0°E.
Sweep: 2.4 Mc to 16.0 Mc in 15 minutes. Manual operation.

Table 34

Leyte, Philippine Is. (11.0°N, 125.0°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		9.9						2.6
01		9.7						2.8
02		9.2						2.9
03		7.8						2.9
04		7.2						3.0
05		6.4						2.8
06		9.1				2.5	3.2	2.8
07		10.5				3.4	<4.5	2.7
08		11.2					<5.0	2.4
09		11.6					<5.2	2.3
10		11.9					<5.5	2.2
11		11.9					<5.8	2.2
12		11.5					<5.8	2.0
13		11.5		6.5			6.2	2.1
14		11.5					<5.8	2.1
15		11.3					5.1	2.1
16		11.0				3.6	<4.9	2.1
17		10.9				2.7	4.1	2.1
18		10.4					3.6	2.2
19		9.9					2.9	2.1
20		9.5						2.1
21		9.2						2.2
22		9.8					3.0	2.4
23		10.2					3.0	2.5

Time: 120.0°E.
Sweep: 1.6 Mc to 16.0 Mc. Manual operation.

Table 35

Huancayo, Peru (12.0°S, 75.3°W) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	8.3						2.7
01	240	8.1						2.8
02	250	7.6						2.9
03	250	7.2						2.9
04	260	6.3						2.9
05	250	6.3						3.0
06	300	6.4				1.6	2.9	2.8
07	270	8.6				2.6	5.5	2.7
08	240	10.5				3.3	10.3	2.6
09	230	11.0	230			3.8	10.7	2.4
10	240	11.1	220			3.9	11.0	2.3
11	235	11.2	220	5.3		4.0	11.5	2.2
12	240	11.2	210	5.3		4.0	11.4	2.1
13	270	11.1	210	5.3		4.0	11.4	2.1
14	230	10.8	220	5.3		3.9	10.8	2.1
15	230	10.7				3.6	10.9	2.1
16	260	10.4				3.2	10.6	2.1
17	280	10.2				2.4	8.2	2.1
18	340	9.6				1.3		2.1
19	375	8.7						2.1
20	325	8.6						2.2
21	280	8.4						2.4
22	250	8.6						2.6
23	240	8.5						2.7

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 36

Townsville, Australia (19.4°S, 146.5°E) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	225	5.7					2.2	3.0
01	240	5.4					2.0	3.0
02	240	4.8						3.0
03	232	4.2					2.0	(3.1)
04	250	4.0					2.1	2.8
05	250	4.0					2.3	2.7
06	250	4.4					2.3	3.0
07	235	8.0				2.2	2.9	3.3
08	230	>10.5			100	2.9	3.0	
09	242	D	240		100	3.5	3.8	
10	250	D	230		100	3.7	3.8	
11	280	>11.5	220	6.1	100	3.9	3.9	(3.0)
12	275	12.2		5.5		3.8	(3.0)	
13	295	>11.0		6.0	100	3.9	4.0	
14	295	10.9				3.7	4.6	(2.9)
15	300	11.0		6.3	100	3.5	3.8	(2.8)
16	245	>11.0				3.3	3.8	(2.8)
17	248	10.5				2.5	3.0	(2.9)
18	250	10.0					3.5	(3.0)
19	220	> 8.0					3.0	2.9
20	250	> 7.5					2.8	2.8
21	250	7.5					2.7	2.8
22	240	7.2					2.2	3.0
23	225	6.5					2.2	3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 37

Brisbane, Australia (27.5°S, 153.0°E) June 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	5.4						2.8
01	280	5.3						2.9
02	270	5.3						2.9
03	290	5.0						2.9
04	270	4.7						2.8
05	285	4.4						2.9
06	250	4.7						3.0
07	220	7.8				2.3		3.2
08	220	10.6			120	2.8		3.3
09	220	12.0			110	3.3		3.3
10	230	12.0			110	3.5	4.3	3.3
11	230	11.6	210		105	3.7	3.9	3.1
12	250	11.6	210		100	3.8	4.0	3.0
13	250	11.1	215		105	3.7	4.0	3.0
14	245	11.5	220		110	3.5	4.4	2.9
15	240	11.3			120	3.2	3.8	2.9
16	230	11.0				2.7	3.7	3.0
17	220	10.0					3.8	3.0
18	220	8.7					2.6	2.9
19	240	8.0					2.8	2.9
20	245	7.0						3.0
21	250	6.7						2.9
22	250	6.0						2.9
23	260	5.4						2.9

Time: 150.0°E.
Sweep: 2.2 Mc to 12.5 Mc in 2 minutes 30 seconds.

Table 38

Canberra, Australia (35.3°S, 149.0°E) June 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	265	5.2						2.7
01	280	4.8						2.7
02	290	5.1						2.7
03	290	5.0						2.8
04	260	5.0						2.8
05	240	4.5						2.9
06	250	4.0						2.9
07	250	5.8						3.1
08	240	9.2			110	2.4		3.4
09	240	11.2			100	2.9		3.3
10	240	11.8			100	3.3		3.2
11	240	12.0			100	3.4		3.1
12	240	11.8			100	3.4		2.9
13	240	12.0			110	3.4		3.0
14	240	11.8			110	3.3	3.1	3.0
15	240	11.6			105	2.9	3.5	3.0
16	230	11.2			110	2.3		3.0
17	240	10.2					2.0	3.0
18	240	9.2						3.0
19	235	7.8						3.0
20	240	6.6						2.9
21	250	5.6						2.8
22	260	5.3						2.8
23	260	5.1						2.7

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 39

Hobart, Tasmania (42.8°S, 147.4°E) June 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	4.3					1.8	(2.8)
01	252	4.3					2.4	2.7
02	265	4.4					3.5	2.7
03	270	4.4					2.1	2.7
04	250	4.3					3.4	(2.8)
05	240	4.3					3.5	2.9
06	250	3.8					2.0	2.8
07	250	4.0					1.8	2.8
08	240	7.1					2.1	3.2
09	232	(9.2)			105	2.7	3.0	(3.4)
10	230	(9.4)			100	3.0	2.5	(3.5)
11	240	(9.4)			100	3.3		(3.5)
12	232	(9.3)			100	3.3	2.1	(3.6)
13	240				100	3.3	3.5	
14	235	(9.3)			100	3.1	3.4	(3.6)
15	232	(9.2)			105	2.8	3.1	(3.5)
16	225	(9.4)			110	2.3	2.4	(3.6)
17	218	(9.4)					2.0	(3.4)
18	240	(8.5)						(3.1)
19	218	(7.5)						(3.0)
20	230	6.0						3.0
21	240	5.5						2.9
22	250	4.9						2.8
23	250	4.8						2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 40

Bagneux, France (48.8°N, 2.3°E) May 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06	340	9.2	260					
07	380	8.5	250	5.4			4.7	
08	430	9.6	230	5.8			5.0	
09	400	9.8	220	6.0			5.0	
10	400	10.4	225	6.2			5.0	
11	430	11.0	220	6.0			5.0	
12	420	10.2	220	6.2			4.4	
13	430	10.0	230	6.1			4.6	
14	445	10.3	230	6.0				
15	430	9.8	240					
16	375	10.0	260					
17	270	10.0	270					
18	290	10.6						
19	280	11.0						
20	300	10.4						
21	320	10.0						
22	330	9.7						
23								

Time: 0.0°.
Sweep: 4.0 Mc to 11.2 Mc in 12 minutes.

Table 41

Huancayo, Peru (12.0°S, 75.3°W) May 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	230	8.1						2.8
01	240	7.8						2.9
02	240	7.3						2.9
03	240	6.7						2.9
04	240	6.4						3.0
05	250	5.8						3.0
06	290	6.6				1.7	2.9	2.8
07	260	9.5				2.8	5.5	2.8
08	240	11.7				3.5	9.8	2.7
09	240	12.5	230			3.9	10.7	2.5
10	230	12.7	230	5.4		4.3	11.9	2.3
11	230	12.7	220	5.4		4.3	11.9	2.2
12	230	12.2	220	5.4		4.3	11.9	2.1
13	270	12.0	215	5.4		4.3	11.9	2.1
14	260	11.9	220	5.4		4.0	10.9	2.1
15	240	11.8				3.7	10.8	2.1
16	260	11.3				3.2	10.7	2.0
17	290	10.8				2.4	8.4	2.0
18	360	10.1				1.3	2.1	2.0
19	420	8.9						2.0
20	360	8.4						2.2
21	295	8.4						2.4
22	250	8.4						2.6
23	240	8.5						2.7

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 42

Huancayo, Peru (12.0°S, 75.3°W) April 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	230	9.0						2.9
01	230	8.2						3.0
02	240	7.4						3.0
03	250	7.1						3.0
04	240	6.0						3.0
05	240	5.7						3.1
06	270	6.5				1.6	2.3	3.0
07	250	10.4				2.8	3.3	3.0
08	240	12.4				3.5	7.2	2.8
09	240	13.8	220	5.3		3.7	10.6	2.6
10	255	14.3	220	5.4			10.6	2.4
11	230	13.1	220	5.4			10.7	2.2
12	240	12.6	220	5.4			10.7	2.2
13	270	12.8	220	5.4			10.6	2.2
14	260	13.0	210	5.2		4.2	10.6	2.2
15	230	13.0	225			3.6	10.6	2.2
16	260	12.4				3.3	10.5	2.2
17	280	12.0				2.6	5.6	2.2
18	320	11.2				1.4	2.3	2.1
19	410	10.2						2.1
20	370	10.1						2.2
21	290	10.0						2.5
22	240	9.4						2.7
23	240	9.3						2.8

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 43

Watheroo, W. Australia (30.3°S, 115.9°E) April 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	6.2					2.9	2.6
01	270	5.7					3.0	2.7
02	268	5.7					3.0	2.7
03	250	5.7					3.2	2.7
04	250	5.1					3.1	2.6
05	268	4.7					3.0	2.6
06	265	5.2				1.0	3.0	2.7
07	245	8.4				2.1	3.0	3.1
08	245	11.2	245	3.9		2.8	3.2	3.1
09	245	12.4	240	4.8		3.4	3.6	3.0
10	260	13.3	235	4.9		3.6	3.8	3.0
11	252	13.3	230	5.0		3.8	4.0	2.9
12	250	13.2	230	5.0		3.9	4.1	2.7
13	260	13.0	225	5.4		3.8	4.0	2.7
14	265	13.0	240	5.1		3.8	3.9	2.6
15	250	12.9	240	4.6		3.5	3.4	2.6
16	245	12.6				3.0	3.2	2.7
17	242	12.2				2.2	3.2	2.7
18	238	11.6				1.1	3.1	2.8
19	235	9.9					3.1	2.8
20	250	8.9					3.0	2.8
21	245	8.4					2.9	2.8
22	245	7.0					2.9	2.7
23	260	6.2					2.9	2.6

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 44

Huancayo, Peru (12.0°S, 75.3°W) March 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	230	9.1						2.8
01	230	8.8						2.8
02	240	8.2						2.9
03	240	7.8						2.9
04	230	7.0						3.0
05	230	6.4						3.0
06	280	7.0				1.7	2.8	2.9
07	260	10.8				2.8	3.4	3.0
08	240	13.0				3.5	7.2	2.8
09	240	14.3	230	5.2		4.0	10.5	2.6
10	240	14.8	230	5.3		4.2	10.7	2.4
11	230	14.6	220	5.3			10.7	2.3
12	230	14.2	220	5.3			10.7	2.2
13	260	13.8	220	5.3		4.4	10.7	2.1
14	260	13.3	220	5.3		4.2	10.7	2.1
15	240	12.8	220	5.2		4.0	10.7	2.2
16	240	12.7				3.5	10.7	2.1
17	270	12.0				2.9	7.4	2.1
18	310	11.5				1.7	3.2	2.0
19	430	10.2				0.8		2.0
20	425	8.9						2.0
21	365	8.9						2.3
22	260	9.6						2.6
23	250	9.6						2.7

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 45

Watheroo, W. Australia (30.3°S, 115.9°E) March 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	282	6.7					2.9	2.6
01	280	6.5					2.9	2.6
02	280	6.3					2.9	2.6
03	270	6.0					2.9	2.6
04	272	5.5					2.9	2.6
05	285	5.3					3.0	2.6
06	292	5.6				1.5	2.9	2.7
07	260	8.2				2.3	3.0	3.1
08	250	10.2	245			3.3	3.3	3.0
09	255	10.7	235	4.5		3.4	3.9	2.9
10	285	11.4	230	4.8		3.5	3.8	2.8
11	290	11.9	235	5.3		3.5	3.9	2.8
12	332	12.0	230	5.4		3.5	3.9	2.7
13	328	11.8	245	5.4		3.7	4.0	2.7
14	350	11.7	240	5.6		3.7	4.0	2.6
15	330	11.6	240	6.1		3.6	3.8	2.6
16	300	11.3	245	5.7		3.3	3.5	2.7
17	250	11.3	245	5.4		2.9	3.2	2.7
18	250	10.5				2.2	3.0	2.8
19	240	10.2					2.8	2.8
20	245	9.3					2.8	2.7
21	250	8.3					2.8	2.7
22	270	7.8					2.8	2.6
23	275	7.3					2.9	2.6

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 46

Huancayo, Peru (12.0°S, 75.3°W) February 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	(8.9)						2.8
01	230	8.2						2.9
02	240	7.6						2.9
03	230	7.2						3.0
04	230	6.2						3.0
05	240	5.2						3.1
06	270	7.1				1.9	2.9	2.9
07	250	10.4				2.9	3.5	3.0
08	240	12.5				3.6	4.9	2.9
09	230	13.8					10.4	2.7
10	220	14.2					10.6	2.5
11	210	14.1					10.5	2.3
12	220	13.0	205	5.5			10.6	2.2
13	280	12.2	210	5.4			10.6	2.1
14	270	11.8	210	5.3			10.6	2.1
15	220	11.7	200	4.8			10.6	2.1
16	220	11.6					10.6	2.0
17	260	10.9				3.0	7.2	2.1
18	290	10.4				2.1	3.8	2.1
19	370	10.0						2.1
20	430	(9.3)						2.0
21	400	(9.2)						2.2
22	310	(9.3)						2.4
23	285	(9.0)						2.5

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 47

Watheroo, W. Australia (30.3°S, 115.9°E) February 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	7.2					3.2	2.7
01	270	6.7					2.9	2.7
02	270	6.0					3.0	2.6
03	275	6.0					3.0	2.6
04	275	5.7					2.9	2.6
05	280	5.4				0.7	2.9	2.7
06	268	6.0	300	3.5		1.9	2.9	2.9
07	280	7.5	250	4.4		2.7	3.3	3.1
08	290	8.5	240	5.0		3.1	4.0	2.9
09	300	9.8	220	5.3		3.6	4.1	2.9
10	318	10.0	220	5.5		3.9	4.4	2.8
11	350	10.5	222	6.2		4.0	4.4	2.6
12	350	10.7	220	6.0		4.0	4.6	2.7
13	360	10.6	225	5.8		4.0	4.5	2.6
14	372	10.5	230	5.8		4.0	4.3	2.6
15	365	10.2	240	6.1		3.8	4.2	2.6
16	370	10.2	240	5.6		3.5	4.1	2.6
17	325	9.8	245	5.2		3.1	3.9	2.6
18	260	9.6	268	4.3		2.4	3.4	2.7
19	262	9.3				1.4	2.8	2.8
20	260	8.6					2.8	2.7
21	262	8.2					2.8	2.7
22	270	7.7					2.8	2.7
23	270	7.6					3.1	2.6

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes.

Table 48

Chita, U.S.S.R. (52.0°N, 113.5°E) September 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	5.6						
01	330	5.2						
02	340	5.2						
03	360	4.8						
04	380	4.8						
05	370	4.7						
06	330	5.0						
07	320	6.1						
08	300	6.6						
09	320	7.2						
10	290	7.3						
11	280	8.4						
12	280	8.2						
13	280	8.6						
14	280	9.0						
15	270	8.9						
16	280	8.7						
17	280	8.5						
18	280	8.5						
19	290	8.2						
20	280	7.0						
21	290	6.7						
22	310	6.4						
23	320	5.8						

Time: 120.0°E.
Sweep: 1.8 Mc to 10.0 Mc in 10 to 15 minutes. Manual operation.

Table 49

Bukhta Tikhaya, U.S.S.R. (80.3°N, 52.7°E) August 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	250	5.7						
01	250	5.6						
02								
03								
04	220	6.1						
05								
06								
07								
08								
09								
10	250	5.7						
11								
12	250	5.1						
13								
14	240	5.2						
15								
16								
17								
18								
19	230	5.9						
20								
21								
22	250	5.8						
23								

Time: 60.0°E.
Sweep: 1.5 Mc to 9.5 Mc in 5 to 10 minutes. Manual operation.

Table 50

Leningrad, U.S.S.R. (60.0°N, 30.3°E) August 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	6.1						
01	270	5.8						
02	300	5.5						
03	300	5.3						
04	280	5.3						
05	270	5.8	250	3.6	120	2.0		
06	270	6.1	250	4.2	120	2.4	2.0	
07	320	6.5	240	4.4	120	2.6	2.9	
08	320	6.8	250	4.7	120	2.9	3.3	
09	350	7.0	250	4.8	120	3.0	3.8	
10	340	7.0	250	4.9			3.8	
11	360	7.3	240	5.0			4.9	
12	340	7.1	240	5.2			3.7	
13	340	7.0	220	5.1			3.3	
14	320	6.9	250	5.2			4.0	
15	300	7.0	250	4.8			3.3	
16	300	7.3	250	4.8			3.0	
17	270	7.1	250	4.4	120	2.6	2.6	
18	270	7.2	240		120	2.4	2.6	
19	260	7.2			120	2.0	2.4	
20	260	7.3						
21	250	7.2						
22	260	7.0						
23	270	6.7						

Time: 30.0°E.
Sweep: Manual operation.

Table 51

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) August 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	5.5						2.6
01	310	5.0						2.6
02	310	4.8						2.6
03	320	4.6						2.6
04	310	4.5						2.7
05	290	5.2	250	(3.7)	140	2.1		2.7
06	310	6.2	250	4.0	130	2.5		2.8
07	300	6.6	240	4.5	120	2.9		2.8
08	320	7.2	240	4.7	120	3.2		2.8
09	320	7.4	230	4.9	120	3.4		2.8
10	320	7.7	230	5.0	120	3.5		2.7
11	320	7.7	230	5.0	120	3.6		2.8
12	320	7.9	220	5.1	120	3.5		2.8
13	330	8.0	220	5.1	120	3.5		2.8
14	310	7.8	230	5.0	120	3.5		2.8
15	300	7.7	230	4.9	120	3.3		2.9
16	290	7.4	230	4.7	120	3.2		2.8
17	270	7.1	250	4.4	120	2.9		2.9
18	260	7.4			120	2.5		2.9
19	250	7.4			140	2.1		2.9
20	260	7.3			(130)	(1.8)		2.8
21	270	6.9						2.8
22	280	6.4						2.8
23	300	5.8						2.7

Time: 60.0°E.
Sweep: 1.5 Mc to 14.0 Mc in 5 to 13 minutes. Manual operation.

Table 52

Tomsk, U.S.S.R. (56.5°N, 84.9°E) August 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	5.8						
01	280	5.2						
02	280	5.0						
03	300	4.8						
04	290	4.8				1.6		
05	280	5.0	260		110	1.8		
06	290	5.8	240	3.8	110	2.2		
07	300	6.3	230	4.1	110	2.7		
08	300	6.6	220	4.3	100	3.0		
09	300	7.0	220	4.6	100	3.2		
10	(300)	7.3	220	4.7	100	3.3		
11	(320)	7.6	240	5.0				
12	(320)	7.6	220	5.0	100	3.4		
13	(320)	7.6	230	4.8				
14	(300)	7.7	220	4.8				
15	(290)	7.6	230	4.5				
16	(280)	7.6	230	4.2	100	2.8		
17	280	7.5	230	4.1				
18	260	7.4	220	3.8	100	2.6		
19	250	7.3			100	2.2		
20	240	7.4			100	1.7		
21	240	7.2						
22	240	7.0						
23	250	6.4						

Time: 90.0°E.
Sweep: 1.2 Mc to 10.0 Mc in 5 to 10 minutes. Manual operation.

Table 53

Moscow, U.S.S.R. (55.5°N, 37.3°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	5.8						2.8
01	280	5.5						2.7
02	280	5.1						2.7
03	280	4.5						2.8
04	260	4.6	240					2.9
05	240	5.8	230	3.4	100	2.4		3.0
06	260	6.6	220	3.9	100	2.6	2.9	3.1
07	280	7.2	220	4.4	90	2.9	4.0	3.0
08	310	7.8	210	4.7	90	3.1	4.7	2.9
09	310	8.0	210	4.7	90	3.2	4.4	3.0
10	320	8.4	210	4.8	90	3.4	4.4	3.0
11	310	8.3	200	4.9	90	3.4	4.0	2.9
12	310	8.1	200	4.9	90	3.4	4.4	2.9
13	310	7.9	200	4.8	90	3.4	3.9	3.0
14	310	7.9	210	4.8	90	3.4		3.0
15	300	7.5	210	4.6	90	3.1		3.0
16	280	7.6	210	4.4	90	2.9		3.1
17	260	7.6	220	3.9	90	2.7		3.1
18	240	7.6	220		100	2.4		3.1
19	240	8.0					2.9	3.1
20	240	7.7					2.6	3.0
21	240	7.3					2.4	2.9
22	260	6.5					2.3	2.9
23	260	6.0						2.8

Time: 30.0°E.
Sweep: 2.2 Mc to 16.0 Mc in 50 seconds.

Table 54

Chita, U.S.S.R. (52.0°N, 113.5°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	6.6						
01	300	6.6						
02	310	6.2						
03	320	6.0						
04	320	5.6						
05	300	6.0						
06	290	6.5						
07	280	6.8						
08	300	7.3						
09	280	7.7						
10	280	7.6						
11	280	8.0						
12	290	8.2						
13	280	8.2						
14	280	8.4						
15	280	8.5						
16	280	8.2						
17	280	8.2						
18	280	8.2						
19	280	8.0						
20	260	8.2						
21	260	9.0						
22	280	7.5						
23	280	6.6						

Time: 120.0°E.
Sweep: 1.8 Mc to 10.0 Mc in 10 to 15 minutes. Manuel operation.

Table 55

Alma Ata, U.S.S.R. (43.2°N, 76.9°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	5.9					4.0	
01	270	5.6						
02	270	5.6						
03	260	5.6						
04	250	5.6						
05	250	5.8						
06	220	6.6			100	2.6	4.2	
07	200	7.0			100	3.0		
08	200	7.4	200	4.7	100	3.4	4.3	
09	210	7.5	220	5.1	100	3.8	5.8	
10	240	8.3	200	5.1	100	4.1	7.6	
11	240	8.2	220	5.0	100	4.1		
12	240	8.0	220	5.4	110	4.3	7.8	
13	230	8.4					5.8	
14	(240)	(7.8)					7.9	
15							7.9	
16	(200)	(7.9)					7.7	
17	(250)	(7.8)					7.2	
18	(220)	(7.6)			100	3.2	6.8	
19	(200)	(7.6)					7.0	
20	(250)	7.2					7.0	
21	240	6.3					6.6	
22	250	6.5					4.9	
23	250	6.1					4.5	

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in 10 to 20 minutes. Manual operation.

Table 56

Bukhta Tikhaya, U.S.S.R. (80.3°N, 52.7°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	4.9						
01	310	5.0						
02								
03								
04								
05								
06								
07								
08								
09								
10	350	5.4						
11								
12	350	5.2						
13								
14	280	5.4						
15								
16								
17								
18								
19	260	5.4						
20								
21								
22	250	5.7						
23								

Time: 60.0°E.
Sweep: 1.5 Mc to 9.5 Mc in 5 to 10 minutes. Manual operation.

Table 57

Leningrad, U.S.S.R. (60.0°N, 30.3°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	6.2						
01	280	5.9						
02	300	5.8						
03	320	5.5						
04	270	5.2		3.2	120	1.9		
05	320	5.6	250	3.6	120	2.3		
06	340	5.8	250	4.2	120	2.7		
07	360	6.2	240	4.4	120	2.9		
08	340	6.6	240	4.7	120	3.1		
09	350	6.5	230	4.8	120	3.3		
10	370	6.8	220	5.0	120	3.6		
11	360	6.6	220	5.0	110	3.7		
12	360	6.7	220	5.1				
13	370	6.6	220	5.1				
14	350	6.5	220	5.0				
15	370	6.4	220	4.9		3.3		
16	350	6.5	220	4.8	110	3.2		
17	320	6.6	240	4.5	110	3.1		
18	320	6.5	240	4.3	120	2.9		
19	260	6.5	250	3.8	120	2.5		
20	270	6.5			120	2.1		
21	260	6.5			120	1.7		
22	270	6.5						
23	270	6.4						

Time: 30.0°E.
Sweep: 1.5 Mc to 9.0 Mc in 5 to 10 minutes. Manual operation.

Table 58

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	6.0						2.7
01	280	5.4						2.7
02	300	5.0						2.7
03	300	4.8						2.7
04	300	5.0	260	3.1	130	2.0		2.8
05	320	5.4	240	3.8	130	2.3		2.8
06	340	5.9	230	4.3	120	2.7		2.8
07	360	6.3	230	4.6	120	3.0		2.8
08	360	6.5	220	4.8	110	3.3		2.7
09	370	6.5	220	5.0	110	3.4		2.7
10	370	7.0	210	5.1	110	3.5		2.7
11	360	7.3	210	5.1	110	3.5		2.8
12	350	7.3	210	5.2	110	3.5		2.8
13	350	7.0	220	5.2	110	3.5		2.8
14	330	7.1	210	5.1	110	3.4		2.8
15	320	7.0	220	4.9	120	3.4		2.8
16	320	6.8	220	4.7	110	3.3		2.9
17	310	6.8	220	4.6	120	3.1		2.9
18	290	6.7	230	4.1	120	2.8		2.9
19	260	6.7	240	3.1	120	2.4		2.9
20	250	6.6			140	2.0		3.0
21	250	6.4						2.9
22	270	6.5						2.7
23	270	6.3						2.8

Time: 60.0°E.
Sweep: 1.5 Mc to 14.0 Mc in 5 to 13 minutes. Manual operation.

Table 59

Tomsk, U.S.S.R. (56.5°N, 84.9°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	6.2						
01	250	5.6						
02	250	5.1						
03	250	4.9						
04	250	4.9			100	1.7		
05	300	5.2	230	3.6	100	2.2		
06	300	5.4	220	4.0	100	2.6		
07	340	6.0	220	4.3	100	3.0		
08	330	6.1	220	4.5	100	3.2		
09	350	6.6	220	4.9	100	3.2		
10	350	6.6	220	5.0	100	3.3		
11	320	6.7	220	5.0	100	3.4		
12	310	7.0	220	4.9	100	3.4		
13	310	7.2	210	4.8	100	3.3		
14		7.0	220	4.7	100	3.3		
15	320	6.9	220	4.8	100	3.1		
16	300	6.8	200	4.5	100			
17	290	6.8	220	4.4	100	3.0		
18	280	6.8	220	4.2	100	2.9		
19	270	6.8	220	3.8	100	2.6		
20	260	6.8	220	3.6	100	2.2		
21	250	6.8			100	1.8		
22	240	6.8						
23	240	6.6						

Time: 90.0°E.
Sweep: 1.2 Mc to 10.0 Mc in 5 to 10 minutes. Manual operation.

Table 60

Moscow, U.S.S.R. (55.5°N, 37.7°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	5.8						2.7
01	270	5.2						2.7
02	280	4.9						2.7
03	280	4.6						2.8
04	300	5.2	230	3.2	100	2.3		2.8
05	330	5.8	230	3.8	110	2.5	3.6	2.8
06	340	6.6	220	4.2	100	2.8	4.2	2.8
07	360	6.3	210	4.6	90	3.1	4.7	2.8
08	360	6.6	210	4.7	90	3.2	4.6	2.8
09	360	7.1	210	4.9	90	3.4	4.6	2.8
10	360	7.4	210	5.0	90	3.5	4.6	2.8
11	360	7.4	210	5.0	90	3.5	4.6	2.9
12	360	7.2	210	5.0	90	3.6	4.3	2.8
13	360	7.0	200	5.0	90	3.5		2.8
14	360	6.8	210	5.0	90	3.4		2.9
15	360	6.9	210	4.8	90	3.4		2.9
16	360	6.6	210	4.6	90	3.2		2.9
17	330	6.8	210	4.4	100	3.0	3.2	2.9
18	280	6.8	230	3.7	100	2.6	3.2	2.9
19	250	6.8			100	2.3	2.8	3.0
20	230	6.8					2.9	3.0
21	250	7.0					2.6	3.0
22	260	6.6						2.9
23	270	6.3					2.3	2.8

Time: 30.0°E.
Sweep: 2.2 Mc to 16.0 Mc in 50 seconds.

Table 61

Chita, U.S.S.R. (52.0°N, 113.5°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	7.0						
01	320	6.9						
02	330	6.6						
03	330	6.0						
04	330	6.1						
05	310	6.1						
06	300	6.2						
07	300	6.3						
08	310	6.0						
09	280	6.4						
10	300	6.5						
11	310	6.5						
12	300	6.6						
13	300	6.8						
14	300	6.8						
15	300	6.8						
16	300	6.9						
17	300	7.0						
18	290	7.0						
19	280	7.0						
20	300	7.0						
21	300	7.4						
22	300	7.4						
23	300	7.2						

Time: 120.0°E.
Sweep: 1.8 Mc to 10.0 Mc in 10 to 15 minutes. Manual operation.

Table 62

Alma Ata, U.S.S.R. (43.2°N, 76.9°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	6.1						
01	300	5.8						
02	280	5.7						
03	260	5.8						
04	260	6.2						
05	260	6.6						
06	220	6.8						
07	220	7.0						
08	(220)	7.4						
09	(240)	(7.8)						
10		(8.5)						
11		(8.4)						
12	(260)	(8.2)						
13								
14								
15								
16	(280)	(8.0)						
17	(250)	(7.2)						
18	200	7.9						
19	200	7.0						
20	240	6.8						
21	250	6.5						
22	260	6.3						
23	260	6.1						

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in 10 to 20 minutes. Manual operation.

Table 63

Bukhta Tikhaya, U.S.S.R. (80.3°N, 52.7°E) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	4.7						
01	300	5.5						
02								
03								
04								
05								
06								
07								
08								
09								
10	260	5.0						
11								
12	270	4.7						
13								
14	250	5.0						
15								
16								
17								
18								
19	260	5.0						
20								
21								
22	270	4.9						
23								

Time: 60.0°E.
Sweep: 1.5 Mc to 9.5 Mc in 5 to 10 minutes. Manual operation.

Table 64

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	6.6						
01	290	5.8						
02	290	5.7						
03	280	5.6						
04	320	5.6	250	3.1	130	2.0		
05	330	5.7	240	3.8	130	2.4		
06	360	6.1	240	4.2	120	2.7		
07	380	6.6	230	4.4	120	3.0	4.6	
08	390	6.8	220	4.7	110	3.2	4.5	
09	380	7.0	220	4.8	110	3.4	5.2	
10	350	7.1	220	5.0	120	3.5	4.8	
11	350	7.3	220	5.0	110	3.5	4.2	
12	360	7.2	210	5.0	110	3.5	4.8	
13	350	7.1	220	5.0	120	3.5	4.9	
14	350	7.1	220	5.0	110	3.4	4.4	
15	350	7.1	220	4.8	120	3.3		
16	320	6.9	230	4.6	120	3.2		
17	310	6.7	230	4.4	120	3.0		
18	290	6.7	230	3.9	120	2.7		
19	270	6.6	240	3.4	130	2.4	3.6	
20	260	6.5			140	2.0	4.1	
21	260	6.6					3.8	
22	270	6.9					3.8	
23	280	6.7						

Time: 60.0°E.
Sweep: 1.5 Mc to 14.0 Mc in 5 to 13 minutes. Manual operation.

Table 65

Tomsk, U.S.S.R. (56.5°N, 84.9°E) June 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	240	6.6						
01	250	6.4						
02	250	5.8						
03	260	5.3						
04	250	5.5				1.7		
05	300	5.8	230	3.5	100	2.2		
06	320	6.0	220	4.0	100	2.6		
07	320	6.2	220	4.3	100	2.9		
08	320	6.6	220	4.5	100	3.2		
09	320	7.0	220	4.8	100	3.2		
10	330	6.9	220	4.8	100	3.3		
11	320	7.4			100	3.4		
12	300	7.2	210	4.9	100	3.4		
13	300	7.4	200	5.0	100	3.3		
14	300	7.2	210	5.0	100	3.2		
15	300	7.1	200	4.6	100	3.1		
16	280	7.0	220	4.5	100	3.0		
17	270	6.6	220	4.2	100	2.8		
18	280	6.6	220	4.0	100	2.6		
19	260	6.7	220	3.6	100	2.5		
20	240	6.8	230		100	2.2		
21	230	6.8				1.6		
22	240	7.0						
23	230	6.8						

Time: 90.0°E.
Sweep: 1.2 Mc to 10.0 Mc in 5 to 10 minutes. Manual operation.

Table 66

Moscow, U.S.S.R. (55.5°N, 37.3°E) June 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	6.2					2.3	(2.7)
01	270	5.9						2.7
02	270	5.6						2.7
03	270	5.4						2.8
04	300	5.8	220	3.4	110	2.4		2.8
05	340	6.6	220	4.0	100	2.6	3.4	2.8
06	330	6.8	210	4.3	100	2.8	4.0	2.8
07	330	6.6	210	4.5	90	3.0	4.3	2.8
08	340	6.8	210	4.7	90	3.1	4.8	2.8
09	360	7.2	210	4.8	90	3.4	4.9	2.8
10	340	7.4	190	4.8	90	3.3	4.8	2.8
11	360	7.3	200	5.0	90	3.3	5.2	2.9
12	350	7.2	200	5.0	90	3.3	4.6	2.8
13	360	7.2	200	4.8	90	3.4	4.4	2.9
14	340	6.9	200	4.8	90	3.3	4.6	2.9
15	340	6.9	200	4.7	90	3.2	4.2	2.9
16	310	6.8	210	4.5	90	3.1	3.8	3.0
17	310	6.8	210	4.3	90	2.8	3.4	3.0
18	280	6.8	230	3.8	100	2.6	3.9	3.0
19	260	6.8	230		100	2.4	3.2	3.0
20	240	6.9					2.2	3.0
21	250	6.8					2.8	2.8
22	260	7.2					2.8	(2.9)
23	260	6.7					2.4	(2.9)

Time: 30.0°E.
Sweep: 2.2 Mc to 16.0 Mc in 50 seconds.

Table 67

Chita, U.S.S.R. (52.0° N, 113.5° E) June 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	310	7.2						
01	350	7.1						
02	340	6.9						
03	350	6.3						
04	320	6.4						
05	300	6.2						
06	300	6.5						
07	300	7.0						
08	290	6.8						
09	300	7.2						
10	300	6.8						
11	290	6.8						
12	300	7.0						
13	300	6.8						
14	300	6.8						
15	300	6.5						
16	300	6.5						
17	300	6.6						
18	300	6.6						
19	300	7.0						
20	300	7.3						
21	300	7.5						
22	300	7.5						
23	300	7.7						

Time: 120.0°E.
Sweep: Manual operation.

Table 68

Alma Ata U.S.S.R. (43.2°N, 76.9°E) June 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	6.2					4.0	
01	280	6.3						
02	280	6.1						
03	270	5.8						
04	280	6.2						
05	260	6.4						
06	250	6.7			100	2.8		
07	240	(7.2)			100	3.2	3.8	
08	250	(8.2)	220	5.0			5.4	
09	260	8.7	220	5.2		4.3		
10	(270)	(9.0)						
11	240	(8.9)	200	5.4				
12	(240)	(9.3)					8.6	
13	(260)	(9.0)					8.7	
14							8.8	
15		(7.9)					6.0	
16	(230)						7.8	
17	(240)	(7.8)					8.0	
18	(240)	(7.9)			100	2.8	7.0	
19	(240)	(7.4)					6.0	
20	(240)	(6.4)					7.4	
21	240	(6.3)					6.6	
22	250	6.6						
23	250	6.3						

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in 10 to 20 minutes. Manual operation.

Table 69

Chita, U.S.S.R. (52.0°N, 113.5°E) May 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	290	6.8						
01	300	6.6						
02	300	6.2						
03	300	6.0						
04	300	5.3						
05	300	5.8						
06	260	6.2						
07	260	6.4						
08	270	6.8						
09	270	7.1						
10	280	7.1						
11	280	7.2						
12	280	7.4						
13	280	7.8						
14	280	7.9						
15	290	7.7						
16	280	7.5						
17	280	7.4						
18	260	7.5						
19	260	7.8						
20	260	7.7						
21	260	7.6						
22	260	7.4						
23	280	7.0						

Time: 120.0°E.
Sweep: Manual operation.

Table 70

Chita, U.S.S.R. (52.0°N, 113.5°E) April 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	310	6.6						
01	320	6.2						
02	310	6.0						
03	320	5.8						
04	300	5.2						
05	310	4.9						
06	300	5.6						
07	280	6.5						
08	270	7.0						
09	270	8.0						
10	260	8.3						
11	260	9.2						
12	260	9.0						
13	260	9.4						
14	270	9.3						
15	260	9.3						
16	270	9.6						
17	260	9.2						
18	280	8.6						
19	270	8.6						
20	280	8.6						
21	300	7.8						
22	300	7.5						
23	300	6.8						

Time: 120.0°E.
Sweep: Manual operation.

Table 71

Chita, U.S.S.R. (52.0°N, 113.5°E) February 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	360	3.7						
01	400	3.7						
02	400	3.9						
03	400	3.8						
04	380	3.8						
05	390	3.8						
06	400	3.5						
07	380	3.7						
08	290	7.0						
09	260	7.3						
10	270	8.6						
11	260	8.7						
12	260	9.3						
13	260	9.4						
14	260	9.5						
15	260	9.7						
16	240	8.8						
17	260	8.7						
18	280	7.9						
19	280	6.3						
20	300	5.7						
21	320	4.5						
22	320	4.2						
23	370	4.1						

Time: 120.0°E.
Sweep: 1.8 Mc to 10.0 Mc in 10 to 15 minutes.

Table 72

Chita, U.S.S.R. (52.0°N, 113.5°E) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	380	3.3						
01	360	3.4						
02	370	3.5						
03	390	3.5						
04	380	3.5						
05	340	3.6						
06	330	3.5						
07	360	3.1						
08	350	3.1						
09	290	5.5						
10	270	7.0						
11	270	7.3						
12	270	7.3						
13	280	7.5						
14	280	7.7						
15	280	7.0						
16	280	6.2						
17	300	5.4						
18	330	4.1						
19	330	3.6						
20	360	3.1						
21	400	2.9						
22	400	3.1						
23	380	3.2						

Time: 120.0°E.
Sweep: 1.8 Mc to 10.0 Mc in 10 to 15 minutes.

Table 73*

Burghead, Scotland (57.7°N, 3.5°W) April 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.8						
01		3.4						
02		3.1						
03		3.0						
04		2.8						
05		2.8						
06		3.6						
07		3.8						
08		4.2						
09		4.6						
10		4.8						
11		5.1						
12		5.1						
13		5.2						
14		5.1						
15		5.2						
16		5.3						
17		5.3						
18		5.3						
19		5.2						
20		5.0						
21		4.8						
22		4.2						
23		4.0						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.
*Average values.

Table 74*

Burghead, Scotland (57.7°N, 3.5°W) March 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.9						
01		2.8						
02		2.6						
03		2.1						
04		2.0						
05		2.0						
06		2.6						
07		3.6						
08		4.2						
09		4.7						
10		5.1						
11		5.3						
12		5.7						
13		5.8						
14		5.8						
15		5.7						
16		5.7						
17		5.6						
18		5.6						
19		5.2						
20		4.5						
21		3.8						
22		3.2						
23		2.9						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation
*Average values.

Table 75*

Burghead, Scotland (57.7°N, 3.5°W) February 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.3						
01		2.3						
02		2.4						
03		2.4						
04		2.3						
05		2.0						
06		2.1						
07		2.5						
08		3.5						
09		4.5						
10		5.2						
11		5.3						
12		5.6						
13		5.8						
14		5.7						
15		5.7						
16		5.5						
17		5.5						
18		4.8						
19		4.1						
20		3.1						
21		2.6						
22		2.2						
23		2.3						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.
*Average values.

Table 76*

Burghead, Scotland (57.7°N, 3.5°W) January 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.5						
01		2.6						
02		2.5						
03		2.4						
04		2.1						
05		2.1						
06		2.2						
07		2.1						
08		2.2						
09		3.6						
10		4.5						
11		4.8						
12		5.1						
13		5.1						
14		5.0						
15		4.8						
16		4.5						
17		4.2						
18		3.4						
19		2.6						
20		2.1						
21		2.1						
22		2.0						
23		2.2						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.
*Average values.

Table 77* (See Table 8, CRPL-F37)

San Francisco, California (37.4°N, 122.2°W) July 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340							2.4
01	325							2.4
02	320							2.4
03	320							2.4
04	325							2.3
05	320							2.4
06	310		270		120			2.4
07	450		250		110			2.3
08	430		230		110			2.3
09	450		230		110			2.3
10	440		230		110			2.3
11	470		230		110			2.3
12	470		200		110			2.3
13	450		230		110			2.3
14	450		230		110			2.3
15	450		235		110			2.4
16	420		230		100			2.4
17	390		245		100			2.5
18	300		270		100			2.6
19	270				140			2.6
20	270							2.6
21	300							2.5
22	300							2.4
23	320							2.4

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.
*Medians of daily data for heights and F2-M3000 revised for the month on the basis of subsequent information furnished by the station.

Table 78* (See Table 11, CRPL-F36.)

San Francisco, California (37.4°N, 122.2°W) June 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340							2.4
01	340							2.3
02	340							2.3
03	340							2.3
04	350							2.3
05	320		340					2.4
06	450		270		110			2.3
07	490		250		110			2.3
08	515		230		110			2.2
09	520		230		110			2.2
10	520		230		110			2.2
11	520		230		110			2.2
12	520		230		110			2.3
13	480		230		110			2.3
14	485		230		110			2.3
15	475		230		110			2.4
16	450		235		110			2.4
17	410		250		110			2.5
18	320		250		110			2.6
19	280							2.6
20	280							2.6
21	280							2.5
22	310							2.4
23	340							2.4

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.
*Medians of daily data for heights and F2-M3000 revised for the month on the basis of subsequent information furnished by the station.

Table 79* (See Table 10, CRPL-F35.)

San Francisco, California (37.4°N, 122.2°W) May 1947

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340							2.4
01	320							2.4
02	320							2.4
03	320							2.4
04	320							2.4
05	320		350					2.4
06	270		300		110			2.5
07	400		250		110			2.3
08	410		230		110			2.3
09	410		230		110			2.3
10	430		230		110			2.4
11	415		230					2.4
12	410		230		110			2.4
13	390		240		110			2.4
14	410		240		110			2.4
15	400		250		110			2.5
16	360		250		110			2.5
17	290		250		110			2.5
18	255		270		110			2.6
19	270							2.6
20	260							2.5
21	270							2.5
22	300							2.4
23	340							2.4

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.
*Medians of daily data for heights and F2-M3000 revised for the month on the basis of subsequent information furnished by the station.

Table 80* (See Table 9, CRPL-F34.)

San Francisco, California (37.4°N, 122.2°W) April 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	320							2.4
01	300							2.4
02	300							2.4
03	305							2.4
04	320							2.3
05	320							2.4
06	270				140			2.6
07	250				110			2.7
08	250		250		110			2.6
09	250		230		110			2.5
10	340		230		110			2.5
11	300		230		110			2.5
12	340		230		110			2.4
13	340		230		110			2.5
14	320		230		110			2.5
15	310		250		110			2.5
16	250		250		110			2.5
17	250				110			2.6
18	250				110			2.7
19	240							2.7
20	250							2.6
21	260							2.5
22	300							2.4
23	320							2.4

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.
*Medians of daily data for heights and F2-M3000 revised for the month on the basis of subsequent information furnished by the station.

Table 81* (See Table 6, CRPL-F33.)

San Francisco, California (37.4°N, 122.2°W) March 1947

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300							2.5
01	310							2.5
02	320							2.5
03	340							2.4
04	320							2.4
05	330							2.4
06	300							2.5
07	250				135			2.9
08	240				120			2.9
09	230				120			2.9
10	230				120			2.8
11	235		230		120			2.7
12	230				115			2.6
13	240				120			2.6
14	240				120			2.7
15	240				120			2.6
16	240				120			2.7
17	240				120			2.7
18	240							2.8
19	230							2.8
20	240							2.8
21	240							2.8
22	260							2.8
23	275							2.6

Time: 120.0°W.
Sweep: 1.5 Mc to 18.5 Mc in 4 minutes 30 seconds.
*Medians of daily data for heights and F2-M3000 revised for the month on the basis of subsequent data for March 28 through March 31 furnished by the station.

TABLE 82

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'F2 (Characteristic), Mc (Unit), September (Month), 1947

Observed at Washington, D.C.

Lat 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300	300	300	300	310	300	C	C	430	A	(530)	400	420	(400)	400	380	(370)	330	C	240	250	270	260	280
2	290	270	250	270	270	280	270	270	250	270	(270)	(250)	C	C	370	340	330	(300)	240	(250)	A	270	280	280
3	300	280K	280K	(340)K	440K	450K	300K	G K	G K	G K	G K	G K	B K	G K	C K	530K	530K	410K	270K	260K	(290)SK	(300)SK	(280)SK	(300)SK
4	(290)SK	(300)SK	370K	350K	(300)SK	(350)K	250F	230	230	270	C	240	300	370	(350)	300	330	220	240	250	250F	250F	310	270F
5	280F	260F	280F	280F	300	280	250	240	230	C	300	(280)C	350	380	370	360	350	270	260	260	260	260	270	(260)
6	280	290	300	340	340	320	270	260	340	320	340	380	380	390	400	380	370	240	270	270	260	280	290	290
7	280	300	300	280	300	280	260	280K	(300)K	400K	430K	460K	480K	430K	450K	460K	420K	370K	280K	250	250	250	A	A
8	A	(300)	A	A	280	A	240	220	280	240	290	250	330	350	(350)	330	300	A	250	240	(260)A	270	250	250
9	260	280	250	270	280	A	260	270	280	(250)	330	(250)	370	(350)	370	360	(330)	320	280	270	240	250	260	260
10	270	280	250	260	290	280	240	300	280	300	360	(380)	410	400	370	340	350	330	260	250	250	250	230	260
11	260	260	250	250	280	270	(260)	240	260	250	(280)	330	350	370	350	360	350	240	260	230	240	240	270	280
12	280	260	260	270	280	280	250	230	240	280	270	280	300	330	320	320	270	270	260	240	230	250	250	290
13	300K	340K	400K	400K	400FK	F K	350K	G K	G K	G K	G K	G K	G K	G K	G K	650K	570	450K	300K	280K	290K	260K	300K	310K
14	300K	300K	(400)K	350K	370FK	350FK	330FK	260K	720K	630K	G K	G K	G K	G K	G K	530K	440K	370K	A K	260K	280K	300K	320K	300K
15	300K	280FK	A K	F K	(350)FK	400FK	310K	280K	310K	(370)K	(380)K	(400)K	A K	(380)CK	390K	380K	380K	290K	280K	250K	250K	260K	270K	270K
16	280K	290K	300K	310K	280K	290K	230	230	300	250	230	230	300	320	280	240	240	240	240	220	220	240	280	280
17	290	280	280	250	250	280	270	230	230	230	260	270	300	280	250	240	250	250	230	230	220	280	290	300
18	300F	300F	300F	310F	300F	300F	250	240	230	250	270	300	300	340	320	300	300	230	230	230	230	240	250	260
19	290	300	300	300	320F	(330)F	270	230	250	280	260	270	[330]C	290	280	290	260	230	230	220	240	270	250F	270F
20	270F	250	270	280	290	280	240	230	220	260	280	270	280	300	270	220	230	230	230	230	240	230	230	250
21	280	280	280	250	250F	250	250	230	230	250	270	280	270	240	250	220	250	240	230	230	230	230	250	250
22	270	270	300F	330F	380F	330F	270	230	230	230	230	290	290	310	260	270	260	240	240	230	230	250	240	240
23	280F	350	350	360F	350F	350F	320	270F	260	300	300	300	330	320	300	280	270	260	240	240	250	280	300F	300F
24	290	250	280	270	350	(400)F	330K	260K	(460)K	(520)K	G K	G K	(510)K	420K	400K	340K	340KF	(400)FK	300K	400FK	(530)FK	A K	(360)FK	(280)FK
25	(420)FK	(360)FK	370FK	(350)FK	(420)FK	330FK	270K	200K	300K	280K	290K	310K	(340)K	330K	340K	410K	370K	300K	280K	260K	280K	260K	290K	330K
26	270FK	F K	350K	(250)K	F K	F K	270	260	250	240	270	270	(280)	300	280	280	280	360	300	230	240	250	240	300
27	280	290	270	260	260	260	260	270	250	250	280	(300)	330	320	340	330	280	280	240	230	240	250	260	250
28	270	260	260	250	260	270	300	290	280	270	260	(300)	260	320	270	330	280	(250)A	250	230	250	250	250	260
29	260	270	270	300	280	280	270	250	290	270	350	C	370	(300)	350	270	270	300	250	250	240	A	270	270
30	[illegible]	260	250	240	240	240	280	250	250	270	(270)	270	(270)	340	330	350	300	260	240	230	240	250	280	300
31																								
Median	280	280	280	280	300	270	270	250	270	270	290	300	330	340	350	335	315	270	250	240	250	250	270	280
Count	29	29	28	28	29	[illegible]	29	29	30	28	29	29	27	29	29	30	30	29	28	30	29	28	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1946 O - 703319

TABLE 83

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

f°F2 (Characteristic), Mc (Unit), September (Month), 1947

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.,

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(6.0)J	5.5	5.6	5.0	5.1	4.6	C	C	(6.3)J	[6.9]A	7.2	(7.8)J	(8.2)J	9.0	9.3	9.3	9.3	8.6	[8.4]C	7.6	7.2	7.1	(6.8)J	(6.0)S
2	[6.0]C	(6.0)J	[5.7]C	(5.4)J	(4.8)J	(4.6)	[5.6]C	(7.6)C	(8.2)	[9.8]C	10.7	(10.5)	(10.6)	(10.4)	(10.1)	(9.6)	(9.5)	(9.3)	(9.2)	(9.1)	8.7	8.2	(7.8)S	(7.3)
3	(7.1)	7.0K	5.8K	4.8K	[3.9]SK	(3.1)FK	(3.4)FK	G K	G K	G K	G K	G K	B K	G K	(6.9)JK	(7.0)JK	6.9K	(7.1)JK	(7.2)JK	(6.8)JK	(6.2)SK	(6.0)K	(6.0)SK	(6.2)SK
4	(5.9)K	(3.5)JK	(3.7)NK	(2.5)K	R FK	F K	(6.0)	(8.2)	(9.3)	(9.8)	(10.7)J	(10.8)	(10.8)	(11.2)	(10.7)	10.5	10.2	10.3	(9.6)	9.5	(9.3)F	8.8F	(8.8)F	8.0
5	(7.9)J	(7.0)J	(5.9)F	(5.2)FJ	(5.0)F	(4.5)F	6.4F	(8.3)	9.7	(9.7)	(10.2)	10.3	10.7	10.2	10.2	10.1	9.7	9.7	9.4	8.7	8.2	8.1	7.2	(7.1)J
6	(7.0)J	(6.7)J	5.6	(5.2)J	4.6F	4.5F	5.4	6.8	8.0	9.1	9.4	10.2	10.5	10.7	11.0	10.9	10.2	(10.6)S	(10.2)S	(9.2)C	8.0	(7.2)J	(7.2)JC	(7.5)J
7	(7.2)J	(5.8)	5.8	(5.5)J	(5.3)Z	(5.0)	5.9	6.9K	7.4K	7.6K	7.9K	8.0K	8.5K	9.0K	9.0K	(8.7)K	9.7K	(9.7)SK	10.4K	(9.0)	8.0	(7.0)J	(6.1)J	5.8
8	5.7	5.7	5.1	(4.4)A	4.1	4.0	6.5	(8.9)J	11.6	12.0	(12.9)	12.6	12.5	12.1	11.6	(11.7)	(10.8)	(10.2)	(10.6)	[9.3]S	8.5	8.4	8.0	7.6
9	(7.0)J	(6.6)J	6.2	(5.9)J	5.7	5.6	6.5	(8.6)J	8.8	9.2	9.8	9.8	10.5	10.4	10.5	10.3	9.8	9.9	9.7	8.9	8.2	8.0	7.6	7.0
10	(6.6)J	(6.3)J	(6.0)JU	5.7	5.6	5.4	6.6	8.2	8.3	8.1	8.1	(8.3)	8.9	9.2	9.3	9.4	9.4	(10.0)J	9.7	(9.2)	8.1	7.5	(7.5)J	7.0
11	(6.6)J	(6.7)J	6.4	5.6	5.6	5.4	(6.6)J	8.8	10.0	10.5	10.0	10.2	10.6	10.5	(10.5)	10.3	10.3	10.5	(10.5)	(9.8)S	(8.6)	8.1	7.8	7.2
12	7.0	(6.7)J	(6.4)	(6.2)J	5.5	5.6	7.3	9.7	(11.3)	12.2	(11.0)	11.4	12.4	12.2	11.8	(11.6)	(11.3)C	[10.8]C	(9.9)S	[9.2]N	8.5	7.7	6.9	5.6
13	(5.7)JK	(4.7)JK	3.9K	(3.4)ZK	2.5FK	F K	(3.7)FK	4.8K	G K	G K	G K	G K	G K	G K	G K	(5.4)K	5.6K	5.6K	6.0K	5.7K	5.7K	5.3K	4.9K	5.2K
14	(4.5)FK	4.2K	K(3.1)FZ	K(3.1)FZ	2.9FK	2.6FK	3.7FK	3.9FK	(5.1)K	(5.9)K	G K	G K	G K	G K	G K	5.6K	6.0K	6.1K	6.3K	5.6K	5.4K	4.8K	4.4K	3.9FK
15	3.7FK	3.3FK	3.0FK	F K	F K	3.2FK	4.4K	6.0K	6.2K	(6.8)JK	(7.1)JK	7.6K	7.3K	7.8K	7.8K	7.7K	7.4K	7.7K	(7.8)K	7.6K	(6.9)JK	6.0K	5.4K	5.0K
16	K(4.4)UF	3.8UK	(3.6)UK	2.6FK	(3.3)UK	K3.0UF	6.0F	8.0	9.7	11.0	11.6	11.2	11.7	(11.6)J	(11.2)	(10.8)	11.0	(10.8)	(10.0)	[9.1]S	(7.2)J	(7.2)Z	(5.7)S	(5.5)F
17	(5.8)J	(5.8)JR	(5.5)	(5.6)JR	(4.5)JU	(4.7)JR	5.2	8.2	9.2	10.3	12.0	12.0	12.2	13.1	11.9	11.9	11.6	[12.0]S	[10.6]C	9.5	7.5	6.6	(5.6)J	5.1UF
18	(4.8)J	F	F	(3.8)J	2.9F	(3.2)ZF	4.8F	7.9	9.7	11.2	10.6	11.7	10.6	10.0	9.8	(10.5)	10.4	10.8	(8.8)	(7.8)	(7.1)J	(6.8)J	(5.8)	(5.0)
19	(4.8)	R F	(3.9)R	(3.9)F	(2.4)F	F	4.6F	7.6	8.8	9.8	10.5	10.3	[10.6]C	11.2	11.0	11.0	(11.2)	10.8	(10.3)	(10.0)	7.5	(6.6)J	(5.8)	(6.1)J
20	(5.6)	(5.1)J	(4.0)F	(3.9)F	(3.2)F	(3.0)F	5.0	8.0F	9.2	10.0	10.5	10.8	11.1	11.8	11.8	11.8	11.3	10.5	9.8	9.2	(8.2)	7.8	(7.0)	(6.4)J
21	5.6	5.4	(5.0)	(4.2)F	(3.8)F	(2.9)F	5.0F	7.4F	9.4	10.9	10.9	(11.0)	12.0	12.5	12.0	(12.0)	11.5	(11.0)S	10.3	(9.8)	(8.7)	7.0	6.0	5.6
22	(5.2)F	4.4F	3.0F	F	F	F	5.2F	6.8F	9.0	(10.7)	(11.5)	(11.2)	(12.2)	12.5	12.3	(11.4)	(11.0)	(10.5)	(10.5)	(9.2)	(8.0)	7.0	(6.4)	(6.2)J
23	(5.2)UJ	(3.6)F	(2.5)F	(2.0)F	(3.0)F	[3.5]F	4.0F	5.2F	6.4	8.5	8.3	8.9	9.2	9.7	9.6	9.8	9.6	8.7	8.6	7.5	(6.8)J	6.3F	(6.2)JF	(5.8)
24	5.6	5.0	4.2	3.6	2.6F	2.3F	3.6K	4.1K	(4.8)K	(5.5)K	G K	G K	(6.6)K	7.7K	9.3K	12.0K	8.1FK	(5.1)FK	(4.7)FK	(2.4)FK	F K	A K	F K	K(3.3)FR
25	(2.3)FK	(2.8)FK	[2.9]FK	(3.1)FK	(2.9)FK	3.2FK	4.7K	2.1FK	7.9K	8.5K	9.8K	9.8K	9.7K	9.6K	8.2K	7.4K	7.2K	6.8K	(6.8)JK	5.9K	4.8FK	K(4.4)FJ	4.2K	3.6FK
26	(3.2)FK	F K	(2.0)FK	(2.6)FK	2.4FK	F K	4.6	7.2	8.6	9.8	10.7	10.8	11.2	10.9	11.3	10.8	10.6	(9.9)S	(9.4)S	(8.2)	7.8	7.3	(7.1)JF	(6.8)JS
27	(6.5)J	7.2	6.4	(6.7)J	5.1F	5.1F	5.9	9.1	10.1	(10.7)J	12.3	12.4	12.6	12.4	12.8	12.0	(11.7)S	(10.8)S	(10.5)S	9.7	(8.8)	8.2	7.8	7.5
28	7.6	[7.0]S	6.6	6.4	5.7	5.3	(6.8)JU	7.8	9.0	10.7	11.7	12.5	12.7	12.3	12.0	12.2	(11.6)	(11.1)	(11.0)	9.5	8.5	8.2	7.6	7.5
29	6.8	6.4	6.2	(5.9)J	(5.8)JF	5.3F	6.1F	8.5	9.5	9.4	9.5	[10.0]C	10.5	10.3	10.7	(11.1)J	(10.8)	10.2	(9.7)	8.8	8.1	(7.1)S	7.3	6.6
30	6.5	6.2	6.2	(5.9)J	5.1	4.2	5.8	9.3	10.6	12.4	12.3	12.3	12.6	12.7	12.6	12.3	(11.6)	[10.8]S	(10.2)SJ	[9.3]S	(8.1)J	(7.8)	(6.8)J	(6.8)J
31																								
Median	(5.8)	(5.8)	5.5	(4.9)	4.3	4.5	5.4	7.8	8.9	9.8	10.4	10.3	10.6	10.4	10.6	10.6	10.2	(10.2)	(9.7)	(9.1)	8.0	7.2	(6.8)	6.2
Count	30	27	29	28	28	25	29	29	30	30	30	30	29	30	30	30	30	30	30	30	29	29	29	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 84

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), September (Month), 1947

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M.S.L., E.J.W.

Calculated by: J.L.K.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	5.6	5.4	5.1	5.1	4.8	5.0	C	C	6.8	[6.8]N	7.6	(8.2)J	N	9.0	9.3	9.3	8.9	[8.5]C	[8.3]C	(7.2)J	7.1	(7.0)J	(6.4)J	[6.4]C
2	(6.5)C	(6.0)C	(5.6)J	(5.2)J	(4.6)C	C	C	(7.8)C	[8.8]C	10.2	(10.7)	(10.7)	(10.5)	(10.3)	10.0	(9.4)	(9.4)	(9.1)	(9.1)	9.0	8.6	(8.0)	(7.1)S	(7.2)
3	(7.2)J	6.6K	5.2K	3.9K	(3.0)FK	(3.1)FK	FK	GK	GK	GK	GK	GK	GK	6.9K	(6.9)JK	6.7K	6.9K	(7.2)SK	7.2K	(6.2)SK	(6.3)SK	(6.1)SK	(6.0)SK	(6.9)SK
4	K(5.3)JN	K3.8ZF	2.5K	RFK	FK	4.0K	(7.2)J	(8.9)	(9.5)	(10.2)	(10.5)J	[10.8]C	[10.6]C	(11.0)S	[10.6]C	10.2	10.1	10.2	(9.3)	(9.3)	[8.9]C	8.9	8.2	(7.9)
5	(7.5)J	(6.2)J	(5.8)F	[4.9]F	(4.8)F	5.0	(7.0)J	9.2	9.7	[10.0]C	(10.2)	10.7	C	10.3	9.8	9.8	9.3	9.3	8.8	8.2	8.4	7.7	(7.1)J	[7.0]C
6	(7.1)J	(6.0)J	(5.5)J	(4.8)JF	4.7F	(4.6)F	6.0	7.2	8.2	9.1	9.6	10.5	10.6	(10.6)	(10.8)	10.6	10.2	(10.3)S	(9.5)C	(8.4)C	7.6	(6.8)C	(7.4)J	(7.0)J
7	(5.8)	(5.7)	(5.7)	(5.2)	5.0Z	(5.4)	6.4	7.2K	7.6K	7.6K	8.6K	8.3K	8.8K	9.0K	9.0K	9.3K	9.7K	(9.8)SK	(9.2)K	8.4	7.2	(6.4)J	5.9	5.7
8	5.7	5.6	4.9	A	4.1	5.0U	8.2	(10.2)J	(11.9)	12.9	(12.7)	12.5	12.2	(11.1)J	(11.8)	11.0	[11.2]S	10.3	(9.9)	(8.7)J	8.4	8.3	7.8	7.4
9	(6.6)J	6.4	6.1	5.6	5.5	5.6	(7.4)J	(8.5)J	9.0	9.6	(9.7)C	10.4	10.3	10.2	(10.2)	9.7	9.7	(9.8)C	(9.4)	8.5	8.1	7.5	7.1	(6.7)J
10	(6.4)J	6.3	5.7	5.6	4.4	4.7	7.6	8.8	8.2	7.9	8.2	(8.2)J	9.0	[9.3]C	[9.3]C	9.5	9.6	(9.7)	9.4	8.2	8.0	7.3	6.6	(6.9)J
11	(6.6)J	(6.6)J	6.0	5.6	5.6	5.7	7.8	9.6	10.0	10.1	10.2	10.3	10.5	10.6	10.4	10.2	10.4	(10.6)	(10.2)S	9.4	8.2	8.0	7.2	(7.1)
12	6.9	6.7	(6.2)J	5.7	5.4	(5.9)S	(9.2)S	(10.7)	(11.8)	11.6	(11.7)	12.3	11.9	11.8	11.7	(11.5)	(11.0)	(9.3)	(10.0)	(9.1)	8.3	(7.6)J	(5.6)J	5.6
13	(4.6)JK	(4.0)JK	2.3K	(3.4)ZK	(2.4)FK	(3.5)FK	FK	4.6K	GK	GK	GK	GK	GK	GK	(5.4)K	5.4K	5.6K	5.9K	5.8K	5.5K	5.6K	4.9K	5.0K	K(4.8)JU
14	K(4.5)JF	FK	K3.2ZF	K(3.3)FZ	2.5FK	3.1FK	3.8FK	GK	GK	GK	GK	GK	GK	GK	(5.6)K	5.8K	6.1K	6.4K	6.0K	5.6K	5.0K	4.8K	4.0FK	3.6FK
15	3.5FK	3.3FK	(2.4)FK	[2.8]FK	K(3.2)FJ	K(3.4)ZF	5.3K	(6.7)JK	6.9K	7.0K	7.2K	7.5K	7.6K	7.8K	7.8K	7.4K	7.8K	7.2K	7.8K	7.2K	(6.4)K	5.5K	5.0K	4.6K
16	K(4.2)NJ	K3.6UF	(2.8)FK	K(3.0)NF	3.2UK	K3.8UF	7.1	8.2	10.5	11.0	11.7	(11.5)	11.7	(11.4)	(11.2)	(11.2)	(10.6)	(10.4)	10.0	7.9	7.5	(6.9)J	(5.6)F	(5.5)
17	5.8	(5.4)R	5.6	(5.0)JR	(4.0)F	F	6.8	8.6	9.6	11.2	11.9	12.0	13.0	12.6	12.3	11.1	(11.1)	(12.2)J	(10.2)	(8.6)J	6.7	5.9	(5.5)J	5.1F
18	(4.7)F	F	F	3.1F	(3.4)ZF	3.3F	6.5	(9.3)J	10.2	10.3	11.0	11.0	10.0	(9.7)	10.4	(10.3)	10.6	(10.3)S	8.5	(7.2)	(6.8)J	6.2	(5.6)	(4.7)J
19	4.0F	R	(3.9)R	(3.2)F	(2.2)F	3.1F	6.2	7.9	9.0	10.0	10.8	(10.2)	10.7	11.2	(10.7)	(10.7)	(11.0)	[10.5]C	(10.2)	7.8	6.4	(6.4)J	[5.9]C	(5.6)J
20	(5.4)J	(4.6)J	(3.8)F	(3.7)F	(3.0)F	(3.1)F	6.4	8.7	9.8	10.3	10.8	11.0	11.2	11.8	11.8	11.5	10.8	10.0	(9.8)	(8.3)	8.1	7.5	(7.0)	5.5
21	5.5	5.2	(4.8)F	(4.0)F	(3.5)F	(3.5)F	6.4F	9.2F	9.8	(10.8)	(11.0)	11.5	12.3	12.0	12.0	(12.0)	(11.5)	(10.8)	(10.2)	(9.2)	8.0	(6.6)	(5.8)F	5.4F
22	(5.0)F	(3.8)F	(2.3)F	F	F	F	6.6	8.8	9.5	(11.3)	(10.9)	12.5	12.0	[12.4]C	(11.3)	[10.9]C	11.0	(10.5)	(10.3)	8.4	(7.1)J	7.0	6.4	5.7
23	(4.1)R	(2.6)F	(2.1)F	(2.0)F	3.1F	2.9F	4.9	6.0F	7.1	8.3	9.2	8.9	9.4	[9.5]	9.7	9.7	9.6	(8.7)	8.0	(7.0)J	(6.2)J	(6.2)JF	6.0F	6.0
24	5.2	4.5	3.6	3.1F	2.4F	(2.9)J	3.9K	4.4K	GK	GK	GK	5.2K	(7.1)JK	(8.4)JK	10.7K	(9.6)FK	[7.7]NK	(5.7)K	FRK	FK	FK	NFK	K(3.8)FR	(2.1)FK
25	K(2.9)FU	3.2FK	(3.3)FK	(3.0)FK	3.1FK	3.6FK	5.9K	(7.8)K	8.2K	9.0K	9.9K	9.8K	9.7K	(8.7)JK	7.8K	7.2K	7.0K	6.4K	6.2K	(5.9)JK	5.2UK	K(4.0)FJ	K4.0ZR	3.7FK
26	FK	FK	2.5FK	(2.4)FK	[2.6]FK	2.9FK	6.0	8.2	9.3	10.5	11.0	11.2	11.0	11.5	10.9	10.8	10.3	[9.9]S	(8.9)	8.0	7.9	(7.1)J	(7.0)JS	(6.6)J
27	7.2	(6.6)	(6.0)J	5.4F	4.9F	5.1F	6.8	9.6	10.2	11.5	12.4	12.1	12.8	(12.5)	12.5	11.7	(11.2)J	[11.2]C	10.2	9.3	(8.4)	7.7	7.8	7.6
28	(7.4)J	6.8	6.7	6.2	[5.5]C	5.7U	6.6	8.2	9.8	11.0	12.3	12.7	12.6	11.3	11.8	[11.6]	11.0	(10.6)	9.6	8.7	8.3	8.0	7.5	6.8
29	6.5	6.3	6.0	(5.9)JU	(5.7)JU	(5.7)JF	7.8	9.0	9.4	(9.2)J	9.5	[10.3]C	10.4	10.4	(11.9)J	11.1	(10.4)	[10.0]	9.8	8.3	7.4	7.2	(7.1)J	6.2
30	6.6	6.2	6.1	5.4	4.7	4.4	7.9	(10.9)J	12.1	12.3	12.2	12.5	12.7	12.6	12.5	(11.8)	(11.2)	[10.6]	(10.1)S	[8.6]S	[8.1]C	(6.6)J	(6.2)	(6.4)
31																								
Median	(5.7)	5.6	(5.1)	(4.9)	4.0	4.0	6.6	8.6	9.4	10.0	10.4	10.6	10.6	10.5	10.6	10.2	10.2	(10.0)	(9.4)	8.3	7.6	7.0	(6.3)	6.0
Count	29	26	29	27	28	27	26	29	30	30	30	30	28	30	30	30	30	30	29	29	29	29	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE : 1946 O - 700810

TABLE 85

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

h'F1, km, September, 1947
(Characteristic) (Unit) (Month)

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5° W

75° W Mean Time

National Bureau of Standards
(Institution)

Scaled by: M.S.L., E.J.W.

Calculated by: J.L.K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	230	230	210	200	210	200	190^{H}	210	A	A	(230)^{F}	C					
2							Q	250	220	200	210	220	C	C	(230)	220	220	Q						
3						K	Q^{K}	250^{K}	230^{K}	C^{K}	190$^{H}_{K}$	C^{K}	B^{K}	(240)^{F}	230^{K}	220^{K}	230^{K}	(210)$^{F}_{K}$	Q^{K}	K	K			
4						K			Q	230	220	200	200	200	250	240	220	Q						
5										Q	210	230	220	220	220	230	230^{H}	240^{H}	Q					
6							Q	240	230^{H}	220	220	220	220	230	230	230	240	Q						
7							Q	240^{K}	210$^{H}_{K}$	200$^{H}_{K}$	200^{K}	230^{K}	230^{K}	220^{K}	220^{K}	230^{K}	230^{K}	250^{K}	Q^{K}					
8								Q	220	200	220	200	200	200^{H}	230	A	A	A	Q					
9							Q	240	240^{H}	220	200^{H}	210	210	220	220	220^{H}	220	240	250	250	Q			
10						Q	230	240	250	230	210	220	220	230	C	230	230	250	Q					
11							Q	220	230	240	200^{H}	200	210	230	220	220	250	230	Q					
12								Q	220	210	200	200	200	220^{H}	230^{H}	230	240^{H}	250	Q					
13						K	Q^{K}	280^{K}	240$^{H}_{K}$	(250)^{K}	(230)^{K}	240^{K}	230^{K}	240^{K}	240^{K}	240^{K}	250^{K}	260^{K}	240^{K}	Q^{K}	K			
14						K	K	Q^{K}	220^{K}	220^{K}	240^{K}	230^{K}	240^{K}	240^{K}	240^{K}	240^{K}	250^{K}	250^{K}	Q^{K}	K	K			
15						K	Q^{K}	260^{K}	250^{K}	240^{K}	200^{K}	220^{K}	190$^{H}_{K}$	220^{K}	220^{K}	220^{K}	220^{K}	230^{K}	Q^{K}	K	K			
16						K		Q	220	200	210	200	200	200	210	220	Q							
17						Q	240	Q	Q	Q	200	210	200	240	230	230	230	240	Q					
18									Q	220	200	200^{H}	200	210	210	200	230	Q						
19								Q	220	200	200	200	180^{H}	200	200	220	220	Q						
20									Q	220	190	200	200	200	220	Q								
21									Q	220	220	200^{H}	200	Q	210	Q	230	Q						
22										Q	220	200	220	230	230	A	A	Q						
23								Q	230^{F}	220	220	220	200	200	230	230^{H}	230	240	Q					
24							K	Q^{K}	200$^{H}_{K}$	230^{K}	230^{K}	230^{K}	240^{K}	240^{K}	240$^{H}_{K}$	230$^{H}_{K}$	B^{K}	280$^{F}_{K}$	(220)$^{F}_{K}$	Q^{K}	K			
25						K	K	Q^{K}	230^{K}	230^{K}	230^{K}	240^{K}	230^{K}	240^{K}	220^{K}	230$^{H}_{K}$	240^{K}	260^{K}	Q^{K}	K	K			
26						K		240	230	230	200	210	190	200^{H}	210	220	230^{H}	240	240	Q				
27							Q	240	230	210^{H}	220^{H}	200^{H}	200^{H}	200^{H}	200^{H}	240	240	240	Q					
28						Q	280	250	230	230	220	220	220	220	210^{H}	220	230	A	Q					
29								Q	240^{H}	220	220^{H}	C	230	B	240	230	240	250	Q					
30							Q	230	230	220	220	210	220	200^{H}	230	230	240	250	Q					
31																								
Median								240	230	220	210	210	205	220	220	230	230	240						
Count							3	14	23	26	30	28	28	27	29	25	24	19	4	1				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE: 1946 O - 703519

Form adopted June 1946

TABLE 86

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

f°F1 (Characteristic), Mc (Unit), September (Month), 1947

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	L	6.0	[5.2] H	5.3	(5.4)	L	(5.4) H	L	L	L	L	C					
2							Q	L	L	L	L	L	C	L	L	L	L	Q						
3						K	Q K	4.9 K	4.6 K	5.0 K	5.2 HK	(5.3) K	[5.4] BK	5.5 K	5.5 K	(5.4) K	(5.2) JK	(4.5) K	Q K	K	K			
4						K			Q	L	L	L	L	L	L	L	L	Q						
5										Q	L	L	L	L	L	L	L	L	Q					
6							Q	L	L	L	L	L	L	L	L	L	L	Q						
7							Q	L K	L K	L K	5.8 HK	6.0 K	6.2 K	6.2 K	6.0 K	5.8 K	5.6 K	L K	Q K					
8								Q	L	L	L	L	L	L	L	L	L	A	Q					
9							Q	L	L	L	L	L	L	L	L	L	L	L	L	L	Q			
10						Q	L	L	L	L	L	(5.7)	L	L	L	L	L	L	Q					
11							Q	L	L	L	L	L	L	L	L	L	L	L	Q					
12								Q	L	L	L	L	L	L	L	L	L	L	Q					
13						K	Q K	(4.1) K	4.1 K	4.4 K	(4.6) K	4.8 K	(4.7) K	4.9 K	4.9 K	4.8 K	4.7 K	4.2 K	L K	Q K	K			
14						K	K	Q K	4.4 K	4.9 K	4.9 K	4.9 K	5.2 K	5.0 K	5.0 K	4.9 K	4.8 K	L K	Q K	K	K			
15						K	Q K	L K	L K	L K	L K	L K	L K	L K	L K	L K	L K	L K	Q K	K	K			
16						K		Q	L	L	L	L	L	L	L	L	Q							
17						Q	L	Q	Q	Q	L	L	L	L	L	L	L	L	Q					
18									Q	L	L	L	L	L	L	L	L	Q						
19								Q	L	L	L	L	L	L	L	L	L	Q						
20									Q	L	L	L	L	L	L	Q								
21									Q	L	L	L	L	Q	L	Q	L	Q						
22										Q	L	L	L	L	L	L	A	Q						
23								Q	L	L	L	L	L	L	L	L	L	L	Q					
24							K	Q K	4.4 K	4.9 K	5.5 K	5.0 K	5.4 K	5.4 K	5.4 K	L K	L FK	L FK	(1.9) FK	Q K	K			
25						K	K	Q K	L K	L K	L K	L K	L K	(5.4) K	L K	L K	(5.1) K	L K	Q K	K	K			
26						K	Q	L	L	L	L	L	L	L	L	L	L	L	L	Q				
27							Q	L	L	L	L	L	L	L	L	L	L	L	Q					
28						Q	L	L	L	L	L	L	L	L	L	L	L	A	Q					
29								Q	L	L	L	C	L	L	L	L	L	L	Q					
30							Q	L	L	L	L	L	L	L	L	L	L	L	Q					
31																								
Median									4.4	4.9	5.2	5.3	5.4	5.4	5.4		5.1							
Count									5	6	6	7	5	7	5		5							

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE : 1946 O - 702310

TABLE 87

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adapted June 1946

h'E (Characteristic), km (Unit), September (Month), 1947

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	100	100	100	100	100	100	100	100	100	100	100	C					
2							100	100	100	100	100	100	(100)	(100)	100	C	(100)	(100)	(100)	100				
3							130^E	100^K	100^K	C	100^K	C^K	B^K	100^K	100^K	100^K	100^K	100^K	100^K	K				
4							(110)	100	100	100	C	100	100	100	(120)	120	100	100	100					
5							120	100	100	C	100	100	100	100	110	100	100	100	(110)					
6								110	110	100	100	100	100	100	100	100	100	110	100					
7							100	100^K	100^K	100^K	A^K	100^K	100^K	100^K	100^K	100^K	100^K	100^K	120^K					
8							$(100)^S$	100	100	100	100	100	100	100	100	110	100	100	100					
9							(100)	100	110	100	100	100	110	100	100	110	120	100	100					
10							100	100	100	100	100	C	110	C	C	100	100	110	110					
11								100	A	100	100	100	100	$(110)^B$	$(110)^B$	100	100	110	120					
12							130	100	100	100	100	100	100	110	100	110	100	100	(140)					
13							$(100)^K$	100^K	100^K	100^K	110^K	110^K	110^K	100^K	100^K	100^K	100^K	100^K	$(110)^K$	K				
14							110^K	100^K	100^K	110^K	110^K	110^K	110^K	100^K	110^K	100^K	100^K	100^K	A^K	K				
15							K	110^K	100^K	110^K	110^K	100^K	100^K	100^K	$(100)^K$	100^K	100^K	$(110)^K$	K	K				
16							100	100	100	100	100	100	100	100	100	100	100	100						
17							100	110	100	100	100	100	100	100	100	100	100	(120)						
18							(100)	110	110	100	100	100	100	100	100	100	100	100	S					
19							S	110	100	100	100	100	$(100)^B$	100	100	100	100	110						
20							S	100	100	100	100	100	100	100	100	110	110	110	S					
21							S	100	100	100	100	100	100	100	100	110	110	120						
22							S	120	100	100	100	100	100	100	100	100	100	120						
23							(130)	100	100	S	100	100	100	100	100	100	100	110						
24							K	110^K	100^K	100^K	100^K	100^K	110^K	100^K	100^K	100^K	E^K	$(110)^K$	S^K	K				
25							100^K	100^K	100^K	100^K	100^K	100^K	100^K	$(120)^K$	120^K	100^K	110^K	120^K	120^K	K				
26								(100)	100	100	100	100	100	100	100	100	100	A	A					
27								A	100	120^A	100	100	100	100	100	110	110	110						
28							100	110^H	100	100	100	100	100	100	100	100	100	110						
29									100	100	100	C	100	110	110	120	110	110						
30								120	100	100	100	100	100	100	100	100	100	110						
31																								
Median							100	100	100	100	100	100	100	100	100	100	100	110	100					
Count							17	28	29	27	28	27	29	29	29	29	29	29	13	1				

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702510

TABLE 88

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

f°E, Mc (Characteristic) (Unit); September 1947 (Month)

Observed at Washington, D. C.

Lat. 39.0°N, Long. 77.5°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1							C	(2.6)	3.1	3.5	(3.9)^{A}	[4.0]^{A}	4.1	4.3	4.1	3.9	3.6	3.1	C						
2							2.1	2.9	(3.6)^{A}	3.7	(3.9)	(4.1)	(4.2)	(4.0)	(4.2)^{F}	[4.0]^{C}	3.7	3.2	2.4	(1.3)^{J}					
3							(2.2)$^{F}_{K}$	2.9^{K}	3.4^{K}	3.7^{K}	(3.9)^{K}	4.0^{K}	[4.1]$^{B}_{K}$	4.1^{K}	4.0^{K}	3.7^{K}	3.5^{K}	3.0$^{F}_{K}$	(2.3)$^{F}_{K}$	K					
4							(2.1)^{S}	3.1^{F}	3.4	(3.8)	(4.0)	(4.0)	4.2	4.2	4.1	3.9	3.6	3.1	2.3						
5							2.1^{H}	3.9	3.4	3.7	3.9	(3.9)^{C}	4.1	4.2	(4.1)	4.0	3.7	3.1	(2.1)						
6								2.8	3.5	3.7	3.8	3.9	3.7	3.7	4.0	(3.9)	3.5	(2.8)	2.3						
7							2.0	(2.9)$^{N}_{K}$	3.3^{K}	3.5^{K}	[3.7]$^{A}_{K}$	3.9^{K}	4.0^{K}	4.1^{K}	4.0^{K}	3.8^{K}	3.5^{K}	3.0^{K}	2.0^{K}						
8							(1.6)^{S}	2.7	3.2	[3.5]^{A}	3.8	4.0	4.2	4.2	4.3	3.9	3.5	2.8	A						
9							(2.0)	(2.9)	3.5	(3.7)	(4.0)	3.9	4.2	4.1	4.1	3.8	3.7	A	A						
10							A	(2.5)	3.4	3.7	A	C	4.1	C	C	3.9	3.5	3.0	(2.0)						
11								A	A	A	(3.8)	4.0	4.0	3.8	(3.7)^{B}	3.5	3.2	2.9	(2.0)						
12							(2.0)	(2.9)^{H}	3.4	3.6	3.8	3.9	4.0	4.0	3.9	3.7	3.3	2.8	(2.0)						
13							(1.2)^{K}	(2.7)^{K}	(2.5)^{K}	(3.5)^{K}	(3.8)^{K}	3.9^{K}	4.1^{K}	(4.0)^{K}	3.9^{K}	3.7^{K}	3.3^{K}	2.7^{K}	1.8^{K}	K					
14							(2.0)^{K}	(2.5)^{K}	3.2^{K}	3.8^{K}	[3.9]$^{A}_{K}$	(3.9)^{K}	4.0^{K}	4.0^{K}	(3.9)^{K}	3.7^{K}	3.3^{K}	2.7^{K}	A^{K}	K					
15							K	2.8^{K}	3.2^{K}	3.7^{K}	3.7^{K}	(3.8)^{K}	(3.9)^{K}	(3.7)^{K}	3.6^{K}	3.5^{K}	3.1^{K}	(2.5)$^{N}_{K}$	K	K					
16							A	2.6	3.3	(3.5)	3.6	3.7	[3.7]^{C}	3.6	3.6	3.4	3.2	2.5							
17							(1.7)	2.6	3.3	3.4	3.5	3.6	(3.7)^{B}	(3.8)	3.7	3.6	3.2	2.7							
18							(1.8)	2.6	3.1	[3.3]^{A}	(3.6)	[3.8]^{A}	(3.8)	(3.7)	3.4	3.3	3.0	2.4	1.9						
19							(1.7)	2.5	3.0	3.4	(3.6)	(3.7)	(3.7)^{B}	3.7	3.5	3.3^{H}	3.1^{H}	2.4							
20							S	2.5	2.9	3.3^{F}	(3.4)	3.6	3.7	(3.7)	3.7^{H}	3.5	3.0	2.2	(1.7)						
21							(1.8)	2.5^{H}	3.1^{F}	3.2	3.5	3.6	[3.7]^{C}	3.6	3.5	3.3	2.9	2.3							
22							1.8	2.4	3.0	3.6	(3.8)	[3.9]^{A}	3.9	3.8^{H}	3.7^{B}	A	A	(2.5)							
23							(1.8)^{F}	2.5	3.1^{F}	3.6	3.7	3.8	(3.9)^{B}	3.9	3.8	3.6	3.2	2.7							
24							K	2.7^{K}	(3.2)^{K}	3.6^{K}	3.8^{K}	3.8^{K}	(4.0)^{K}	(3.7)$^{B}_{K}$	3.8^{K}	3.5^{K}	[3.1]$^{B}_{K}$	2.7$^{H}_{K}$	S^{K}	K					
25							1.9^{K}	2.5$^{H}_{K}$	3.0^{K}	A^{K}	A^{K}	A^{K}	A^{K}	(3.9)^{K}	3.8^{K}	3.6^{K}	(3.3)^{K}	2.5^{K}	A^{K}	K					
26								(2.7)	3.2	3.5	3.7	3.9	(3.9)	3.9	(3.8)	3.6	3.2	(2.7)	A						
27								(2.6)	[3.1]^{A}	3.6	[3.9]^{A}	(4.0)	4.0	(4.0)	3.8	3.6	3.2	(2.7)							
28							(1.9)	(2.7)	3.2	(3.7)	3.9	4.0	(4.1)	4.0	3.9	(3.6)^{A}	(3.2)^{A}	(2.5)							
29									3.2	3.6	3.7	[3.8]^{C}	4.0	[4.0]^{B}	3.9	(3.7)	3.3	(2.7)							
30								A	(3.2)	(3.5)	(3.5)	3.5	A	A	A	3.7	3.2	2.5							
31																									
Median							(1.9)	2.7	3.2	3.6	3.8	3.9	4.0	4.0	3.8	3.7	3.3	2.7	2.0						
Count							18	27	29	28	28	28	28	28	28	29	29	29	12	1					3

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1949 O - 103319

TABLE 89

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

Form adopted June 1946

Es (Characteristic), Mc,km (Unit) September (Month), 1947

Observed at Washington, D.C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: M. S. L., E: J.W.

Calculated by: J. L. K.,

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	3.2/100	4.4/100	9.5/130	4.4/100	5.4/100		4.7/120	4.5/130	6.4/110	5.5/110	5.5/100	C	2.1/100				
2							3.4/100	(3.7)/100	3.8/110	(4.0)/100					4.6/100	C			S		7.6/100	(3.8)/100		
3					(2.3)/(110)								B					(3.8)/110 F	3.5/110					
4																		3.2/140					(3.8)/100	1.9/100
5			1.9/100	(1.8)/100		20/120		33/100											2.7/130	3.7/110				
6								2.2/100	3.6/130	4.0/120	4.1/120	4.4/110	4.3/110	4.3/110				(3.5)/130	2.5/140					
7											4.4/100							(3.8)/120	3.5/120			1.9/160	4.7/140	4.6/130
8	5.4/130	2.2/130	4.6/120	6.0/120	5.0/120	4.1/120	5.0/120		(3.6)/120	(4.8)/120	4.0/110				5.5/120	5.7/120	5.8/120	5.6/110	6.9/100	5.8/100	(3.4)/100	3.9/100		
9				1.4/110	3.7/120	[illegible]0/110				4.4/110		4.2/120	3.6/100	4.5/100		3.0/100	4.0/100	4.2/(110)	4.6/110		3.3/110			
10							2.1/100		3.5/140	(3.8)/130	4.1/100	C	4.2/140	C	C	4.1/130	4.7/130	4.3/120			2.1/100	3.6/110		
11		3.3/120						3.9/120	3.2/110	4.7/110														
12								(4.0)/150		4.2/140				4.2/130				3.9/130						
13	2.6/140	2.4/130																						2.5/(160)
14										(5.4)/100	3.9/120							3.6/120	4.0/120	2.2/110				
15			1.8/130	11/120													(3.4)/120							
16	2.4/100						2.2/100											2.7/120						
17																	3.5/110							
18					3.1/150	2.4/150	2.2/130	2.8/140	5.7/120	4.0/120	3.9/120	3.9/120			3.8/120	4.0/110	3.3/130							
19							1.9/130								3.7/120	3.7/120	3.4/130							
20							1.9/140		6.0/100	3.5/120	3.6/120				3.9/130	3.9/120	3.5/110		2.1/130	1.8/110				
21						(2.0)/150		3.0/140	3.4/100	(4.3)/100	(3.7)/130					4.0/110	3.2/120	2.5/120				1.6/120	2.0/130	
22			(2.4)/150 F						3.2/130	4.1/150		4.2/100				5.3/100	5.2/100		2.2/100	(2.4)/100				
23								2.5/110			3.9/110										(2.2)/100			
24						4.0/120								4.0/100		3.9/160						5.0/120 F		(3.0)/120 F
25		(2.0)/130					(2.1)/140			(4.2)/100	(4.4)/100	(4.2)/100	4.0/100						2.4/130	3.6/130				
26				1.6/130	3.9/140					3.8/100	5.5/130							2.4/130	2.0/130					
27								2.2/100	3.3/110	3.2/100	3.8/110					2.4/100	3.5/120	2.8/140						
28															3.8/130	5.2/120	3.8/120	6.7/120		2.4/110				
29											4.5/110	C			4.4/130		3.6/130		2.5/110		2.4/110	4.0/100	3.9/110	2.1/110
30	3.7/100	4.6/110	(1.5)/100	1.4/120				2.6/130			4.2/110	4.2/110	4.6/110	4.2/100	5.7/100									
31																								
Median										3.4														
Count	30	30	30	30	30	30	29	30	30	30	30	28	29	29	29	29	30	30	28	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702510

TABLE 90

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

Form adopted June 1946

F2-M1500 (Characteristic), ____ (Unit), September (Month), 1947

National Bureau of Standards (Institution)

Observed at Washington, D.C. Lat. 39.0°N, Long. 77.5°W

75° W Mean Time

Scaled by: M. S. L., E. J. W

Calculated by: J.L.K.,

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(1.7)J	1.6	1.6	1.7	1.6	1.8	C	C	(1.7)J	A	1.6	(1.8)J	(1.8)J	1.7	1.7	1.7	1.7	1.7	C	1.9	1.7	1.7	(1.9)J	(1.8)S
2	C	(2.0)J	C	(2.1)J	(2.1)J	(1.8)	C	(2.0)C	(2.2)	[2.1]C	2.0	(1.8)	(1.8)	(1.6)	(1.8)	(1.7)	(1.8)	(1.8)	(1.8)	(1.8)	1.8	1.8	(1.7)S	(1.7)S
3	(1.6)	1.7K	1.6K	1.5K	NSK	(1.5)FK	(1.9)FK	GK	GK	GK	GK	GK	BK	GK	(1.4)JK	(1.5)JK	1.5K	(1.7)JK	(1.7)JK	(1.7)JK	(1.5)SK	(1.7)K	(1.7)SK	(1.6)SK
4	(1.6)K	(1.5)JK	(1.4)NK	(1.2)K	RFK	FK	(2.1)	(2.1)	(2.2)	(2.1)	C	(1.9)	(1.9)	(1.8)	(1.8)	1.7	1.8	1.8	(1.9)	1.7	(1.8)F	1.7F	(1.6)F	1.8
5	(1.6)J	(1.7)J	(1.6)F	(1.6)JF	(1.7)F	(1.7)F	2.1F	(2.1)	2.3	C	(1.8)	1.7	1.7	1.8	1.7	1.8	1.8	1.7	1.9	1.9	1.9	1.8	1.7	(1.5)J
6	(1.5)J	(1.6)J	1.6	(1.5)J	1.6F	1.7F	1.8	1.9	1.9	1.8	1.8	1.7	1.6	1.7	1.6	1.7	1.6	(1.7)S	(1.8)C	(1.9)C	1.7	(1.6)J	(1.6)J	(1.7)J
7	(1.6)J	(1.6)	1.8	(1.6)J	(1.7)Z	(1.7)	2.0	2.0K	1.9K	1.8K	1.7K	1.7K	1.6K	1.7K	1.6K	(1.6)K	1.5K	(1.7)SK	1.7K	(1.9)	1.8	(1.6)J	(1.6)J	1.6
8	1.6	1.7	1.8	(1.9)A	1.8	1.6	1.9	(2.1)J	2.2	2.1	(1.9)	1.8	1.8	1.8	1.8	(1.8)	(1.8)	(2.0)	(1.9)	[2.0]S	1.8	2.0	1.8	1.8
9	(1.7)J	(1.7)J	1.7	(1.7)J	1.7	1.7	2.0	(1.9)J	2.0	1.9	1.7	1.7	1.6	1.8	1.8	1.7	1.8	1.8	1.8	2.0	2.0	1.8	1.7	1.7
10	(1.6)J	(1.7)J	(1.7)JU	1.7	1.7	1.7	2.1	2.0	2.1	1.9	1.8	(1.8)	1.7	1.7	1.7	1.8	1.8	(1.7)J	1.8	(1.9)	1.9	1.7	(1.7)J	1.9
11	(1.8)J	(1.9)J	1.9	1.8	1.6	1.7	(2.0)J	2.1	2.1	1.9	1.8	1.8	1.7	1.7	(1.7)	1.7	1.8	1.8	(1.8)	(1.8)S	(1.9)	1.8	1.7	1.7
12	1.6	(1.7)J	(1.7)	(1.7)J	1.7	1.7	1.9	2.1	(2.2)	2.1	(2.1)	1.9	1.8	1.8	1.8	(1.8)	(1.8)C	[2.0]SS	(2.1)S	N	2.0	1.9	1.6	1.6
13	(1.5)JK	(1.6)JK	1.3K	(1.4)ZK	1.5FK	FK	(1.6)FK	1.7K	GK	GK	GK	GK	GK	GK	GK	(1.4)K	1.4K	1.6K	1.7K	1.7K	1.6K	1.7K	1.6K	1.6K
14	(1.6)FK	1.5K	K(1.5)FZ	K(1.5)FZ	1.5FK	1.5FK	1.8FK	2.3FK	(1.3)K	(1.5)K	GK	GK	GK	GK	GK	1.6K	1.7K	1.8K	1.9K	1.8K	1.7K	1.5K	1.6K	1.8K
15	1.6FK	1.7FK	1.5FK	FK	FK	1.5FK	1.9K	2.0K	2.1K	(1.8)JK	(1.7)JK	1.7K	NK	1.8K	1.8K	1.8K	1.7K	1.9K	(2.0)K	1.9K	(1.6)JK	1.9K	1.9K	1.8K
16	K(1.8)UF	1.8UK	(1.7)UK	1.8FK	(1.7)UK	K1.7UF	2.0F	2.3	2.0	1.9	2.0	2.0	1.9	(1.8)J	(1.9)	(2.0)	1.9	(2.0)	(2.1)	[2.1]S	(1.9)J	(1.8)Z	(1.7)S	(1.8)F
17	(1.6)J	(1.7)JR	(1.6)	(1.7)JR	(1.8)JU	(1.7)JR	2.1	2.3	2.2	2.0	2.1	2.1	1.8	2.0	1.9	1.9	2.0	[1.9]S	S	1.9	1.8	1.8	(1.6)J	1.7UF
18	(1.8)J	F	F	(1.7)J	1.8F	(2.0)ZF	2.2F	2.3	2.1	2.1	1.9	2.0	1.9	1.8	1.8	(1.9)	1.9	(2.1)	(2.0)	(2.1)	(1.7)J	(1.9)J	(1.9)	(1.8)
19	(1.8)	RF	(1.7)R	(1.7)F	(1.8)F	F	2.1F	2.2	2.0	2.0	2.0	2.0	[1.8]C	2.0	2.0	2.0	(1.9)	2.0	(2.1)	(2.0)	1.9	(2.1)J	(2.0)	(1.8)J
20	(1.8)	(2.0)J	(1.8)F	(1.7)F	(2.0)F	(1.8)F	2.1	2.2F	2.2	2.1	2.1	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	(2.0)	2.0	(2.0)	(1.9)J
21	1.8	1.7	(1.8)	(1.8)F	(1.8)F	(2.0)F	2.2F	2.2F	2.2	2.2	2.0	(2.0)	1.9	1.8	1.9	(1.9)	2.0	(2.1)S	2.1	(2.0)	(2.1)	2.0	1.9	1.8
22	(1.8)F	1.9F	1.7F	F	F	F	2.2F	2.2F	2.3	(1.9)	(2.0)	(1.8)	(1.8)	1.9	1.9	(1.8)	(1.9)	(2.0)	(1.9)	(2.0)	(2.0)	1.8	(1.9)	(1.8)J
23	(2.0)UJ	(1.5)F	(1.7)F	(1.7)F	(1.7)F	F	1.9F	2.0F	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.1	1.9	(1.8)J	1.8	(1.8)JF	1.8
24	1.7	1.9	1.8	1.8	1.6F	1.5F	1.8	1.9	G	(1.7)	G	G	(1.6)	1.6	1.6	1.7	1.8F	(1.7)F	(1.9)F	(1.5)F	F	A	F	(1.8)FR
25	(1.5)F	(1.6)F	F	(1.7)F	(1.5)F	1.7F	2.0FK	2.2FK	2.2K	2.1K	1.9K	2.0K	1.8K	1.8K	1.8K	1.7K	1.8K	1.8K	(1.8)JK	1.9K	K(1.8)FJ	FK	1.7K	1.7FK
26	(1.9)FK	FK	(1.8)FK	(1.6)FK	1.5FK	FK	2.0K	2.1K	2.3K	1.9K	2.1K	2.0K	1.8K	1.9K	1.9K	1.8K	1.9K	(1.9)SK	(2.0)SK	(2.0)K	1.8K	1.8K	K(1.8)JF	K(2.0)JS
27	(1.6)JK	1.5K	1.8K	(1.5)JK	1.8FK	1.7FK	2.1	2.2	2.2	(2.1)J	1.8	1.9	1.8	1.9	1.8	1.9	(1.9)S	(2.1)S	(2.0)S	2.0	(1.9)	1.8	1.7	1.7
28	1.8	[1.7]S	1.8	1.8	1.8	1.8	(1.6)JU	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.8	(1.9)	(2.1)	(2.0)	1.9	1.9	1.9	1.9	1.9
29	1.6	1.8	1.7	(1.6)J	(1.6)JF	1.7F	2.0F	2.1	2.0	1.9	1.8	C	1.6	1.6	1.7	(1.7)J	(1.7)	1.8	(1.9)	1.8	1.8	(1.7)S	2.0	1.7
30	1.7	1.7	1.8	(1.8)J	1.9	1.7	1.9	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	(1.8)	S	(2.0)SJ	S	(2.0)J	(1.9)	(1.7)J	(1.6)J
31																								
Median	(1.6)	(1.7)	1.7	(1.7)	1.7	1.7	2.0	2.1	2.1	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	(1.8)	(1.9)	1.9	1.8	1.8	(1.7)	1.8
Count	29	27	27	28	26	24	28	29	30	28	29	29	28	30	30	30	30	29	28	28	29	28	29	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702318

Form adopted June 1946

TABLE 91

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

F2-M3000 (Characteristic), ____ (Unit), September (Month), 1947

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: M.S.L., E.J.W.

Calculated by: J.L.K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(2.6)J	2.5	2.4	2.5	2.5	2.7	C	C	(2.7)J	A	2.4	(2.8)J	(2.7)J	2.6	2.6	2.6	2.6	2.6	C	2.9	2.6	2.6	(2.9)J	(2.8)S
2	C	(2.9)J	C	(3.2)J	(3.1)J	(2.8)	C	(3.2)C	(3.3)	[3.1]C	2.9	(2.7)	(2.7)	(2.6)	(2.6)	(2.7)	(2.7)	(2.7)	(2.7)	(2.8)	2.6	2.7	(2.6)S	(2.3)S
3	(2.5)	2.6K	2.5K	2.3K	NSK	(2.3)FK	(2.8)FK	GK	GK	GK	GK	GK	BK	GK	(2.5)JK	(2.3)JK	2.3K	(2.5)JK	(2.8)JK	(2.6)JK	(2.6)SK	(2.6)K	(2.6)SK	(2.4)SK
4	2.5K	(2.6)JK	(2.2)UK	(2.3)K	RFK	FK	(3.1)	(3.1)	(3.2)	(3.1)	C	(2.8)	(2.8)	(2.7)	(2.6)	2.6	2.6	2.7	(2.8)	2.6	(2.7)F	2.5F	(2.6)F	2.7
5	(2.6)J	(2.6)J	(2.5)F	(2.5)FJ	(2.5)F	2.6	3.1F	(3.1)	3.3	C	(2.6)	2.5	2.7	2.8	2.6	2.7	2.7	2.6	2.8	2.6	2.7	2.8	2.5	(2.4)J
6	(2.4)J	(2.4)J	2.6	(2.3)J	2.4F	2.5F	2.8	2.8	3.1	2.8	2.7	2.5	2.6	2.5	2.5	2.5	2.5	(2.6)S	(2.7)S	(2.7)C	2.6	(2.4)J	(2.4)JC	(2.7)J
7	(2.4)J	(2.4)	2.6	(2.4)J	(2.7)Z	(2.6)	2.9	3.0K	2.8K	2.8K	2.7K	2.6K	2.5K	2.5K	2.5K	(2.4)K	2.3K	(2.5)SK	2.7K	(2.8)	2.6	(2.5)J	(2.5)J	2.5
8	2.5	2.6	2.8	(2.7)A	2.7	2.4	2.9	(3.1)J	3.2	3.1	(2.9)	(2.7)P	2.6	2.7	2.8	(2.7)	(2.6)	(2.7)	(2.8)	[3.0]S	2.8	2.8	3.1	2.8
9	(2.6)J	(2.5)J	2.6	(2.6)J	2.6	2.6	2.9	(2.9)J	3.0	2.8	2.7	2.6	2.6	2.6	2.5	2.6	2.9	2.7	2.7	3.0	3.0	2.8	2.6	2.7
10	(2.6)J	(2.6)J	(2.6)JU	2.6	2.6	2.7	3.0	3.0	3.0	2.8	2.6	(2.8)	2.6	(2.6)	2.6	2.7	2.7	(2.6)J	2.7	(2.8)	2.9	2.7	(2.6)J	2.7
11	(2.8)J	(2.8)J	2.8	2.7	2.6	2.7	(2.7)J	3.2	3.1	2.9	2.7	2.7	2.6	2.6	(2.6)	2.6	2.7	2.7	(2.9)	(2.7)S	(2.7)	2.8	2.6	2.5
12	2.6	(2.6)J	(2.6)	(2.7)J	2.6	2.6	3.0	3.1	(3.2)	3.1	(3.1)	2.8	2.8	2.8	2.8	(2.8)	(2.9)C	[3.1]SS	(3.2)S	N	2.8	2.9	2.6	2.4
13	(2.4)JK	(2.3)JK	2.2K	(2.1)ZK	2.4FK	FK	(2.5)FK	2.5K	GK	GK	GK	GK	GK	GK	GK	(2.2)K	2.3K	2.5K	2.7K	2.6K	2.6K	2.7K	2.4K	2.5K
14	(2.5)FK	2.3K	K(2.3)FZ	K(2.3)FZ	2.4FK	2.4FK	2.6FK	3.3FK	(2.0)K	(2.3)K	GK	GK	GK	GK	GK	2.5K	2.7K	2.7K	2.9K	2.8K	2.6K	2.3K	2.5K	2.6FK
15	2.5FK	2.6FK	2.5FK	FK	FK	2.4FK	2.9K	3.1K	2.9K	(2.8)JK	(2.8)JK	2.6K	NK	2.6K	2.7K	2.8K	2.6K	2.9K	(3.0)K	2.8K	(2.8)JK	2.8K	2.8K	2.7K
16	K(2.7)UF	2.8UK	(2.6)UK	2.8FK	(2.6)UK	K2.7UF	2.8F	3.4	3.1	3.0	3.0	2.9	2.8	(2.8)J	(2.9)	(3.0)	2.9	(3.0)	(3.1)	[3.1]S	(2.8)J	(2.7)Z	(2.6)S	(2.7)F
17	(2.4)J	(2.7)JK	(2.9)	(2.6)J	(2.7)JU	(2.8)JK	2.9	3.4	3.3	3.0	3.2	3.1	2.8	3.1	2.9	3.0	3.0	[2.9]S	C	2.8	2.7	2.7	(2.5)J	2.5UF
18	(3.0)J	F	F	(2.6)J	2.7F	(3.0)ZF	3.2	3.3	3.1	3.1	2.9	2.9	2.8	2.7	2.8	(2.8)	2.8	(3.0)	(3.0)	(3.0)	(2.8)J	(2.9)J	(2.8)	(2.7)
19	(2.6)	RF	(2.6)R	(2.6)F	(2.7)F	F	3.2F	3.3	3.2	3.1	3.0	3.0	[2.9]C	2.9	2.9	3.0	(2.8)	3.0	(2.9)	(2.9)	2.9	(2.8)J	(3.0)	(2.6)J
20	(2.8)	(2.9)J	(2.8)F	(2.7)F	(3.0)F	(2.8)F	3.3	3.4F	3.2	3.1	3.1	3.0	2.9	2.9	2.8	2.9	3.0	3.0	3.0	3.3	(2.9)	3.0	(3.0)	(2.9)J
21	2.7	2.6	(2.7)	(2.7)F	(2.8)F	(3.0)F	3.2F	3.2F	3.3	3.2	3.0	(3.0)	2.8	3.0	2.8	(2.9)	2.9	(3.1)S	3.1	(3.1)	(3.1)	3.0	2.8	2.8
22	(2.8)F	2.8F	2.5F	F	F	F	3.3F	3.2F	3.3	(2.9)	(3.0)	(2.8)	(2.8)	2.9	2.9	(2.9)	(2.9)	(3.0)	(2.9)	(2.9)	(2.9)	2.6	(2.8)	(2.7)J
23	(3.0)UJ	(2.2)F	(2.5)F	(2.3)F	(2.5)F	F	2.9F	3.1F	3.3	3.1	3.0	2.9	2.8	2.9	2.9	2.9	2.9	(3.2)	3.0	2.9	(2.7)J	2.8F	(2.7)JF	2.7
24	2.8	2.6	2.7	2.8	2.5F	2.2F	2.7K	3.0K	GK	(2.5)K	GK	GK	(2.4)K	2.5K	2.4K	2.5K	2.7K	(2.5)FK	(2.9)FK	(2.4)FK	FK	AK	FK	K(2.8)FK
25	(2.2)FK	(2.4)FK	FK	(2.6)FK	(2.3)FK	2.6FK	2.9FK	3.3FK	3.2K	3.1K	2.9K	2.9K	2.7K	2.7K	2.9K	2.5K	2.6K	2.7K	(2.7)JK	2.8K	2.7K	FK	2.6K	2.6FK
26	(2.8)FK	FK	(2.6)FK	(2.4)FK	2.4FK	FK	2.8	3.2	3.4	2.9	3.0	3.1	2.9	2.8	2.7	2.8	2.8	(2.9)S	(2.9)S	(3.1)	2.7	2.7	(2.3)JF	(2.5)JS
27	(2.4)J	2.1	2.7	(2.2)J	2.5F	2.6F	3.1	3.2	3.4	(3.2)J	2.9	2.8	2.8	2.8	2.8	2.9	(2.9)S	(3.1)S	(3.0)S	2.9	(2.8)	2.7	2.6	2.6
28	2.6	[2.6]S	2.7	2.7	2.7	2.7	(2.4)JU	2.9	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.8	(2.9)	(2.9)	(2.9)	2.8	2.7	2.9	2.7	2.9
29	2.7	2.7	2.6	(2.4)J	(2.4)JF	2.5F	3.0F	3.1	2.9	2.8	2.6	C	2.5	2.5	2.7	(2.5)J	(2.7)	2.7	(2.8)	2.7	2.7	(2.6)S	2.6	2.5
30	2.6	2.6	2.9	(2.7)J	2.9	2.6	2.9	3.0	3.2	2.9	2.9	2.9	2.8	2.8	2.8	2.7	(2.7)	S	(2.9)SJ	S	(2.9)J	(2.8)	(2.6)J	(2.4)J
31																								
Median	(2.6)	(2.6)	2.6	(2.6)	2.6	2.6	2.9	3.1	3.2	3.0	2.9	2.8	2.8	2.7	2.7	2.7	2.7	(2.7)	(2.9)	2.8	2.7	2.7	(2.6)	2.6
Count	29	27	27	28	26	24	28	29	30	28	29	29	28	30	30	30	30	29	28	28	29	28	29	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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TABLE 92

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

F1-M3000 (Characteristic), ______ (Unit), September 1947 (Month)

Observed at Washington, D.C.

Lat. 39.0°N, Long. 77.5°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: M.S.L., E.J.W.

Calculated by: J.L.K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1							C	L	3.4	A	3.8	(3.9)	L	(4.1)^{H}	L	L	L	L	C						
2							Q	L	L	L	L	L	C	L	L	L	L	Q							
3						K	Q^{K}	3.1^{K}	3.7^{K}	C^{K}	3.9^{HK}	C^{K}	B^{K}	3.4^{K}	3.5^{K}	(3.6)^{K}	(3.4)^{JK}	(3.3)^{K}	Q^{K}	K	K				
4						K			Q	L	L	L	L	L	L	L	L	Q							
5										Q	L	L	L	L	L	L	L	L	Q						
6							Q	L	L	L	L	L	L	L	L	L	L	Q							
7							Q	L^{K}	L^{K}	L^{K}	3.6^{HK}	3.5^{K}	3.4^{K}	3.4^{K}	3.5^{K}	3.2^{K}	3.3^{K}	L^{K}	Q^{K}						
8								Q	L	L	L	L	L	L	L	L	L	A	Q						
9							Q	L	L	L	L	L	L	L	L	L	L	L	L	L	Q				
10						Q	L	L	L	L	L	(3.7)	L	L	L	L	L	L	Q						
11							Q	L	L	L	L	L	L	L	L	L	L	L	Q						
12								Q	L	L	L	L	L	L	L	L	L	L	Q						
13						K	Q^{K}	(3.3)^{K}	3.1^{K}	(3.6)^{K}	(3.7)^{K}	3.8^{K}	(3.3)^{K}	(3.5)^{K}	3.7^{K}	3.6^{K}	3.3^{K}	3.3^{K}	L^{K}	Q^{K}	K				
14						K	K	Q^{K}	3.4^{K}	3.5^{K}	3.6^{K}	3.7^{K}	2.9^{K}	3.5^{K}	3.5^{K}	3.5^{K}	3.2^{K}	L^{K}	Q^{K}	K	K				
15						K	Q^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	Q^{K}	K	K				
16						K		Q	L	L	L	L	L	L	L	L	Q								
17						Q	L	Q	Q	Q	L	L	L	L	L	L	L	L	Q						
18								Q	L	L	L	L	L	L	L	L	L	Q							
19								Q	L	L	L	L	L	L	L	L	L	Q							
20									Q	L	L	L	L	L	L	Q									
21									Q	L	L	L	L	Q	L	Q	L	Q							
22										Q	L	L	L	L	L	L	A	Q							
23								Q	L	L	L	L	L	L	L	L	L	L	Q						
24							K	Q^{K}	3.4^{K}	3.5^{K}	3.5^{K}	3.7^{K}	3.3^{K}	3.5^{K}	3.3^{K}	L^{K}	L^{K}	L^{K}	(4.1)^{FK}	Q^{K}	K				
25						K	K	Q^{K}	L^{K}	L^{K}	L^{K}	L^{K}	L^{K}	(3.3)^{K}	L^{K}	L^{K}	(3.2)^{K}	L^{K}	Q^{K}	K	K				
26						K	Q	L	L	L	L	L	L	L	L	L	L	L	L	Q					
27							Q	L	L	L	L	L	L	L	L	L	L	L	Q						
28						Q	L	L	L	L	L	L	L	L	L	L	L	A	Q						
29								Q	L	L	L	C	L	L	L	L	L	L	Q						
30							Q	L	L	L	L	L	L	L	L	L	L	L	Q						
31																									
Median									3.4		3.6	3.7		3.5	3.5		3.3								
Count									5		6	6		7	5		5								

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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U.S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 93

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

E-M1500 (Characteristic), ____ (Unit), September 1947 (Month)

National Bureau of Standards (Institution)

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

Scaled by: M. S. L., E. J. W.

Calculated by: J. L. K.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	(4.4)	4.8	4.6	(4.6)^{A}	A	4.5	4.4	4.4	4.5	4.6	4.5	C					
2							4.3	4.5	(4.7)^{A}	4.7	(5.0)	(4.9)	(4.8)	(4.9)	(4.6)^{F}	C	4.7	4.5	5.0	(4.5)^{J}				
3							(3.6)$^{F}_{K}$	4.3^{K}	4.4^{K}	C^{K}	(4.9)^{K}	C^{K}	B^{K}	4.3^{K}	4.4^{K}	4.6^{K}	4.6^{K}	4.7$^{F}_{K}$	(4.1)$^{F}_{K}$	K				
4							(4.9)^{S}	4.4^{F}	4.6	(4.6)	C	(4.4)	4.6	4.4	5.1	4.5	4.4	4.5	4.5					
5							4.4^{H}	3.2	4.5	C	4.4	(4.6)^{C}	4.4	4.4	(4.5)	4.4	4.6	4.7	(4.7)					
6								4.3	4.4	4.6	4.5	4.5	4.6	4.7	4.5	(4.6)	4.4	(4.6)	3.9					
7							4.8	(4.6)$^{N}_{K}$	4.5^{K}	4.7^{K}	A^{K}	4.7^{K}	4.5^{K}	4.9^{K}	4.5^{K}	4.4^{K}	4.6^{K}	4.5^{K}	4.6^{K}					
8							(4.6)^{S}	4.8	4.7	A	4.6	4.9	4.3	4.3	4.1	4.5	4.7	4.7	A					
9							(4.6)	(4.1)	4.4	(4.2)	(4.3)	4.5	4.3	4.2	4.3	4.3	4.1	A	A					
10							A	(4.6)	4.3	4.2	A	C	(4.2)	C	C	4.1	4.3	4.3	(4.5)					
11								A	A	A	(4.1)	4.0	4.4	4.6	(4.3)^{B}	4.4	4.5	4.1	(4.6)					
12							(4.2)	(4.2)^{N}	4.6	4.5	4.6	4.5	4.4	4.3	4.4	4.3	4.4	4.2	(4.0)					
13							(4.3)^{K}	(4.5)^{K}	(4.4)^{K}	(4.4)^{K}	(4.6)^{K}	4.1^{K}	4.0^{K}	(4.1)^{K}	4.2^{K}	4.2^{K}	4.2^{K}	4.2^{K}	3.9^{K}	K				
14							(4.5)^{K}	(4.4)^{K}	4.6^{K}	4.1^{K}	A^{K}	(4.0)^{K}	4.1^{K}	4.3^{K}	(4.4)^{K}	4.1^{K}	4.1^{K}	4.1^{K}	A^{K}	K				
15							K	3.9^{K}	4.1^{K}	3.8^{K}	4.2^{K}	(4.1)^{K}	(4.4)^{K}	(4.6)^{K}	4.6^{K}	4.6^{K}	4.5^{K}	(4.7)$^{N}_{K}$	K	K				
16								4.3	4.5	(4.6)	4.7	4.7	C	4.4	4.6	4.6	4.4	4.8						
17							(4.7)	4.5	4.4	4.6	4.8	4.7	(4.6)^{B}	(3.9)	4.1	4.0	4.5	4.1						
18							(4.8)	3.9	4.2	A	(4.3)	A	(4.2)	(4.6)	4.8	4.7	4.4	4.6	3.8					
19							(4.1)	4.4	4.3	4.4	(4.6)	(4.6)	(4.7)^{B}	4.6	4.6	4.6^{H}	4.2^{H}	4.7						
20								4.5	4.3	4.6^{F}	(4.6)	4.6	4.4	(4.4)	4.5^{H}	4.5	4.5	4.6	S					
21							S	4.4^{H}	4.5^{F}	4.7	4.6	4.6	[4.7]^{C}	4.4	4.7	4.7	4.6	4.8						
22							4.3	4.6	4.5	4.5	(4.7)	A	4.9	4.5^{H}	(4.7)^{B}	A	A	(4.8)						
23							(4.6)^{F}	4.6	4.5^{F}	4.3	4.6	4.5	(4.4)^{B}	4.2	4.2	4.3	4.4	4.4						
24							K	4.4^{K}	(4.4)^{K}	4.2^{K}	4.5^{K}	4.6^{K}	(4.4)^{K}	(4.7)$^{B}_{K}$	4.6^{K}	4.6^{K}	B^{K}	4.3$^{H}_{K}$	S^{K}	K				
25							4.8^{K}	4.0$^{H}_{K}$	4.3^{K}	A^{K}	A^{K}	A^{K}	A^{K}	(3.9)^{K}	4.1^{K}	4.2^{K}	(3.9)^{K}	4.4^{K}	A^{K}	K				
26								(4.2)	4.4	4.4	4.6	4.2	(4.4)	4.0	(4.4)	4.2	4.1	(3.8)	A					
27								(4.6)	A	4.4	A	(4.4)	4.4	(4.3)	4.0	4.7	4.4	(4.4)						
28							(4.2)	(4.1)	4.4	(4.2)	4.4	4.4	(4.4)	4.3	3.9	(4.2)^{A}	(4.1)^{A}	(4.4)						
29									4.1	4.2	4.6	C	4.4	B	4.0	(4.2)	4.2	(4.4)						
30								A	(4.4)	(4.3)	(4.6)	4.6	A	A	A	4.6	4.4	4.0						
31																								
Median							(4.5)	4.4	4.4	4.4	4.6	4.5	4.4	4.4	4.4	4.4	4.4	4.5	4.5					
Count							17	27	25	24	24	23	26	27	28	28	28	29	11					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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U. S. GOVERNMENT PRINTING OFFICE : 1946 O - 708519

Table 94

Ionospheric Storminess at Washington, D.C.

September 1947

Day	Ionospheric character * 00-12 GCT	Ionospheric character * 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12-GCT	Geomagnetic character** 12-24 GCT
1	1	1			2	2
2	0	2			2	3
3	4	7	0600	---/	5	5
4	4	3	---/	1100	5	3
5	3	2			3	3
6	1	1			3	3
7	1	4	1200	---/	4	4
8	2	3	---/	0000	3	2
9	0	2			1	1
10	1	2			1	1
11	0	1			1	3
12	0	3			3	2
13	4	7	0500	---/	5	4
14	4	7	---/	---/	5	4
15	4	4	---/	---/	5	4
16	4	1	---/	1100	3	3
17	1	3			5	4
18	3	2			4	4
19	3	2			4	3
20	2	2			3	2
21	2	1			4	2
22	3	1			4	4
23	3	3			5	3
24	2	6	1100	---/	4	6
25	6	4	---/	---/	7	4
26	5	2	---/	1100	3	3
27	0	1			2	3
28	0	0			2	2
29	0	3			2	2
30	1	1			1	2

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, magnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

/Dashes indicate continuing storm.

Table 95

Sudden Ionosphere Disturbances Observed at Washington, D. C.

1947 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
September 2	1756	1920	Ohio, D.C., England, New Brunswick, Ontario	0.03	
2	2035	2100	Ohio, D.C., New Brunswick, Ontario	0.02	
4	1919	1930	Ohio	0.05	
5	2020	2040	Ohio, D.C.	0.1	
6	1239	1305	Ohio, D.C., England	0.2	
13	1220	1250	England	0.02	
22	1802	1850	Ohio, D.C., England, Ontario	0.0	Terr.mag.pulse 1800-1820
25	1400	1445	Ohio, D.C., England, Mexico, Ontario	0.0	
25	1752	1805	Ohio, D.C., Ontario	0.05	
28	1751	1815	Ohio, D.C.	0.3	
29	1935	2005	Ontario	0.1	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant, for all SID except the following: Station GLH, 13525 kilocycles, received in New York, 5340 kilometers distant, was used for the SID on September 13. Station CFRX, 6070 kilocycles, 580 kilometers distant, was used for the SID on September 29.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

Table 96

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief,

Cable and Wireless, Ltd., as Observed in England

1947 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
August 23	1630	1710	Brentwood	Bermuda Is., Bulgaria, Canary Is., Colombia, India, Iran, Malta, Portugal, Spain, Switzerland, U.S.S.R.
23	1638	1705	Somerton	Argentina, Barbados, Brazil, Canada, Gold Coast, New York, Nigeria
24	1340	1410	Brentwood	India, Iran, Palestine, Spain, Thailand, U.S.S.R., Yugoslavia
24	1342	1405	Somerton	Ascension I., Australia, Barbados, Canada, China, New York, Union of S. Africa
25	1005	1025	Brentwood	Austria, Belgian Congo, Canary Is., Greece, India, Iran, Kenya, Malta, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
26	1120	1150	Brentwood	Austria, Bahrein I., Belgian Congo, Bulgaria, Canary Is., Greece, India, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
31	1450	1520	Brentwood	India, Spain, Switzerland, Thailand, U.S.S.R., Yugoslavia
31	1455	1530	Somerton	Ceylon, China, New York, Union of S. Africa
September 2	0900	0915	Brentwood	Afghanistan, Austria, Belgian Congo, Bulgaria, Canary Is., Greece, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Turkey, U.S.S.R., Yugoslavia, Zanzibar
2	0858	0907	Somerton	Ceylon, India, Gold Coast, Nigeria, Union of S. Africa
5	0940	1110	Brentwood	Belgian Congo, Greece, Kenya, Madagascar, Southern Rhodesia, Spain, Switzerland, Zanzibar
5	1800	1840	Brentwood	Bermuda Is., Chile, Venezuela
September 6	1235	1310	Brentwood	Austria, Belgian Congo, Canary Is., Greece, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Surinam, Switzerland, Turkey, Venezuela, Zanzibar
10	1010	1100	Brentwood	Austria, Belgian Congo, Greece, India, Iran, Kenya, Portugal, Southern Rhodesia, Syria, Turkey
11	0930	1010	Brentwood	Austria, Belgian Congo, Canary Is., Greece, India, Kenya, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, Zanzibar

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 97

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and CRPL Probable Disturbed Period Forecasts)
August 1947

Day	North Atlantic							North Pacific						
	Quality figure		CRPL* Warning		CRPL** Forecast of probable disturbed periods	Geo-mag-netic K_{Ch}		Quality figure		CRPL* Warning		CRPL** Forecast of probable disturbed periods	Geo-mag-netic K_{Ch}	
	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT
1	6	6				3	3	7	5				3	3
2	6	6				3	3	6	5				3	3
3	6	6				2	3	7	6				2	3
4	7	7			X	3	2	8	6			X	3	2
5	7	6			X	2	2	6	6			X	2	2
6	6	7			X	3	3	7	7			X	3	3
7	6	6			X	2	2	6	7			X	2	2
8	7	6			X	2	2	8	5			X	2	2
9	7	6				2	2	7	5				2	2
10	6	6				2	2	8	(4)				2	2
11	7	6				2	3	8	5				2	3
12	5	5				5	3	7	(4)				5	3
13	6	5				3	4	7	5				3	4
14	5	5	X	X	X	3	2	6	6	X	X	X	3	2
15	5	5		X	X	3	5	7	(4)		X	X	3	5
16	(4)	5	X	X	X	4	5	(4)	5	X	X	X	4	5
17	(4)	(4)	X	X	X	5	4	5	5	X	X	X	5	4
18	(4)	(4)	X	X		5	4	5	5	X	X		5	4
19	(4)	(4)	X	X		4	5	(4)	7	X	X		4	5
20	(3)	(4)	X	X		4	4	6	(4)	X	X		4	4
21	(4)	(4)	X	X		5	4	5	5	X	X		5	4
22	(4)	(4)	X	X		5	5	5	(4)	X	X		5	5
23	(4)	(4)	X	X	X	5	4	5	5	X	X	X	5	4
24	5	(4)	X	X	X	4	3	6	5	X	X	X	4	3
25	5	5	X	X	X	5	3	6	5	X	X	X	5	3
26	5	5	X	X		3	2	6	5	X	X		3	2
27	6	6				4	1	7	6				4	1
28	6	6				2	3	6	7				2	3
29	6	6				2	3	7	7				2	3
30	6	6				2	1	7	5				2	1
31	7	5	X	X		2	4	6	6	X	X		2	4
Score:														
H			9		4					5		2		
M			0		5					2		5		
G			17		14					15		14		
(S)			5		3					7		5		
S			0		5					2		5		

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half day as broadcast.

Quality Figure Scale:
1 - Useless
2 - Very poor
3 - Poor
4 - Poor to fair
5 - Fair
6 - Fair to good
7 - Good
8 - Very good
9 - Excellent

Symbols:
X Warning given or probable disturbed date

H Quality 4 or worse on day or half day of warning

M Quality 4 or worse on day or half day of no warning

G Quality 5 or better on day of no warning

(S) Quality 5 on day of warning

S Quality 6 or better on day of warning

( ) Quality 4 or worse (disturbed)

Geomagnetic K_{Ch} on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 98

American and Zürich Provisional Relative Sunspot Numbers

September 1947

Day	American* number	Zürich** number	Day	American* number	Zürich** number
1	232	237	16	151	122
2	233	196	17	157	156
3	236	236	18	126	140
4	231	181	19	108	105
5	254	204	20	100	93
6	256	206	21	119	98
7	275	243	22	100	98
8	262	284	23	124	106
9	254	242	24	148	128
10	218	206	25	166	150
11	186	191	26	172	173
12	180	194	27	174	197
13	171	156	28	181	194
14	151	150	29	186	213
15	156	137	30	231	229
No. of Days: 30			Monthly means:	184.6	175.5

*Median of data from 18 observers.

**Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa.

Table 99

CORONAL OBSERVATIONS AT CLIMAX, COLORADO

September* 1947

First row - green line 5303A
Second row - red line 6374A
Third row - red line 6704A

Day	Time of observation GCT	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175
1	1542-1609	6	6	7	8	8	7	6	6	6	5	5	6	8	10	12	13	15	18	20	30	38	36	34	29	27	23	24	23	24	22	19	17	17	16	13	10
																		1	1	2	4	3	4	2	1	7	11	6	1	1							
																	1	1	1	2	3	5	4	2	1	1	2	2	2	1	1	1					
2	1451-1545	5	7	3	7	8	6	4	4	--	--	--	--	--	4	8	12	16	14	28	23	29	33	25	7	6	7	8	9	11	13	16	15	13	14	15	5
																	1	1	1	1	1	1	1	1	1	1	2	3	5	4	1						
																	1	1	2	3	4	5	6	3	1	1	1	1	1	1	1	1	1	1	1	1	
4	1748-1846	-	-	--	--	--	--	5	5	5	5	5	5	5	5	7	12	15	18	20	23	12	12	10	10	8	5	20	12	5	14	15	14	12	12	9	7
																	1	2	1	1	2	8	4	2	1	1		12	9	10	5	2	2	2	1		
7	1453-1613	4	3	5	5	8	8	8	9	9	10	8	6	7	7	7	4	10	14	12	12	11	8	10	9	7	6	8	10	12	11	11	9	10	9	7	7
																	2	1	2	2	2	1	1	1		5		5	10	3	4	3	2	1	1	1	1
																	1	1	1	2	2	2	1	1	1	1	1	1	2	2	2	1	1				
9	1927-1955	3	4	4	3	6	7	8	9	9	10	10	8	7	9	9	9	10	11	12	16	15	6	8	9	11	9	9	9	12	11	9	9	6	5	5	4
																	2	3	1	1	4	8	11	11	2	1	2	5	8	11	8	6	2	1			
12	1525-1603	-	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5	8	11	12	12	5	9	12	13	14	12	8	5	--	--	--	--	--
																					1	9	8	1						5	5	1					
													1	1	1	1	1	1	1	1	1	1	1			1	1	1	1	1	1					
13	1521-1656	-	-	8	8	--	--	--	10	14	17	18	17	9	7	8	13	14	10	12	7	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
							1	4	4	2	1			1	1	1	3	10	7																		
																1	1	1	1	1																	

Table 99 (continued)

Day	Time of observation GCT	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
1	1542-1609	8	9	10	9	9	9	9	7	5	4	4	5	6	8	10	11	16	18	19	18	19	16	10	6	6	6	6	8	5	7	8	7	6	7	7	7
																			1	1	2	8	1		1	1	2	1	2	4	2	1	1				
															1	1	1	1	1	1	1	1	1														
2	1451-1545	3	4	5	5	9	10	10	8	3	--	--	--	3	4	9	11	8	10	18	22	16	18	13	12	12	17	19	12	3	3	10	7	5	5	7	9
																	1	2	2	4	1	13	10			2	3	5	1	2	1	1					
															1	2	2	2	2	2	2	1	1	1	1	1	1										
4	1748-1846	5	6	7	7	8	9	10	9	3	3	3	3	5	6	9	9	10	11	11	10	9	8	8	10	12	27	26	23	8	--	--	--	--	--	--	--
																				1	1	1	1	1	2	5	15	14	15	3	3	2	1	1			
														1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1							
7	1453-1613	3	3	6	5	8	10	9	10	6	3	3	9	8	5	7	12	15	23	25	40	30	20	14	12	14	25	25	34	32	13	9	--	--	--	--	--
																				2	2	5	1	9	2		12	9	23	12	11	11	1				
													1	1	1		1	2	3	4	5	4	2	1	1	1	1	1	2	2	1	1					
9	1927-1955	6	7	8	8	10	12	10	9	3	4	5	12	11	3	5	8	14	20	30	37	40	37	33	25	14	14	18	30	20	18	12	--	--	--	--	--
																				1	13		12	11	2	2	4	10	12	2	2						
																		1	1	1	2	2	1	1	1	1	1	2	2	1	1	1	1				
12	1525-1603	--	5	7	8	8	9	10	10	8	5	5	6	7	10	9	9	10	10	15	30	28	26	25	30	32	33	28	20	15	15	17	12	9	7	--	--
																				1	2	3	10	2	8	3	22	20	4	2	1	1	1	1	1	1	1
																	1	1	1	1	1	1	2	2	3	3	4	4	4	3	2	2	1	1			
13	1521-1656	--	--	--	10	10	12	12	9	11	11	10	11	11	10	--	--	--	12	15	26	37	33	25	20	23	39	35	30	15	12	12	8	--	--	--	--
		1	1	1	1	1	1	1	1											1	3	14	14	2	2	1	22	18	10	3	1						
																				1	1	2	2	3	4	10	10	7	5	3	2	1	1				

*Final measurements for September 22, 23, 25, and 26, not received.

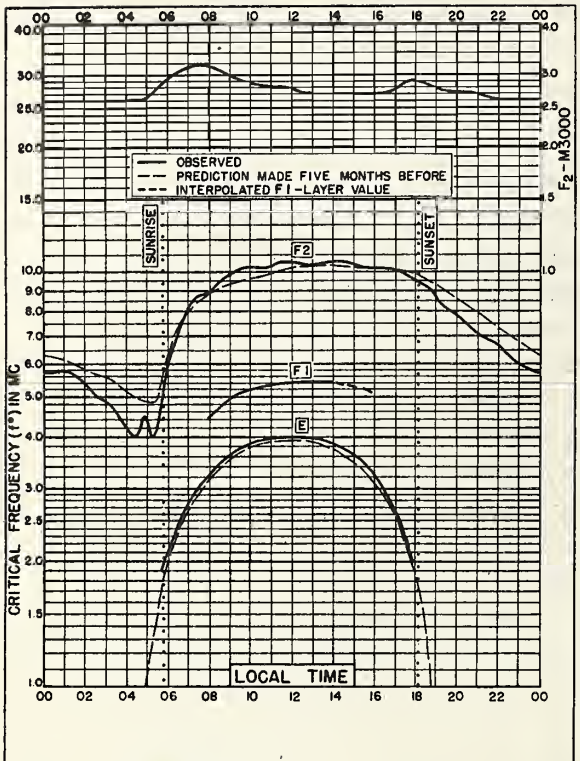

Fig. 1. WASHINGTON, D. C.
39.0°N, 77.5°W SEPTEMBER 1947

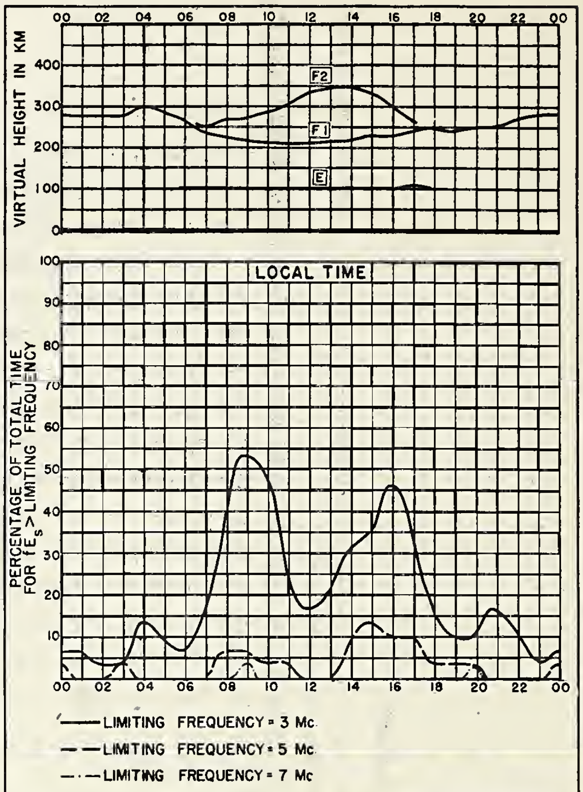

Fig. 2. WASHINGTON, D. C. SEPTEMBER 1947

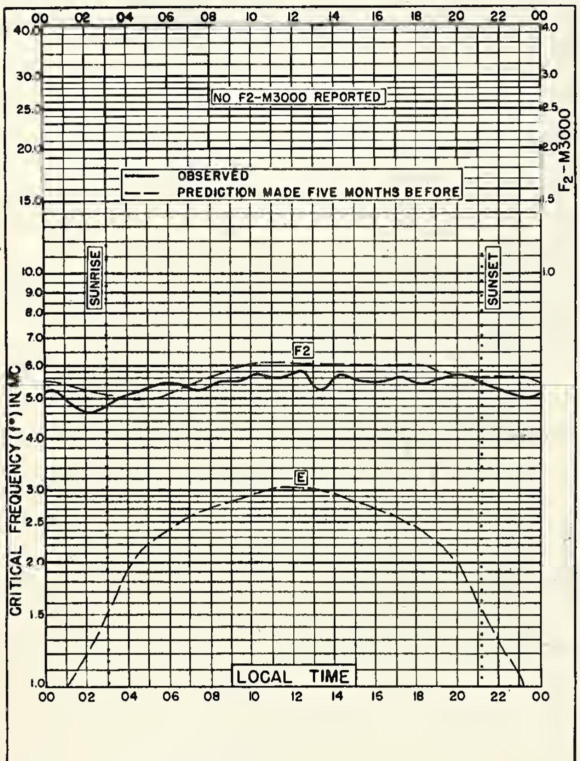

Fig. 3. CLYDE, BAFFIN I.
70.5°N, 68.6°W AUGUST 1947

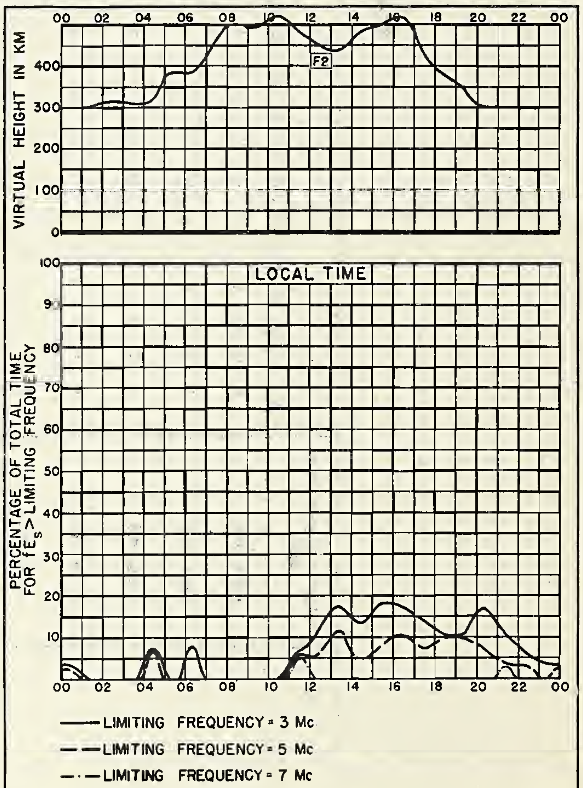

Fig. 4. CLYDE, BAFFIN I. AUGUST 1947

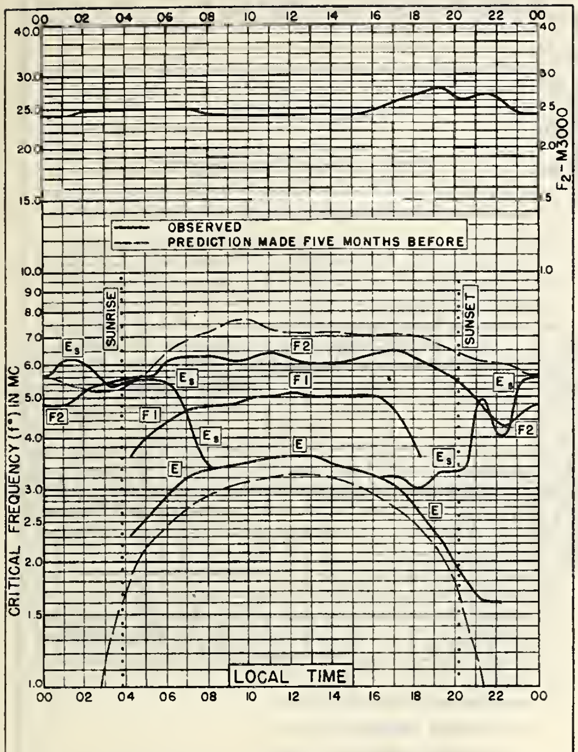

Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W AUGUST 1947

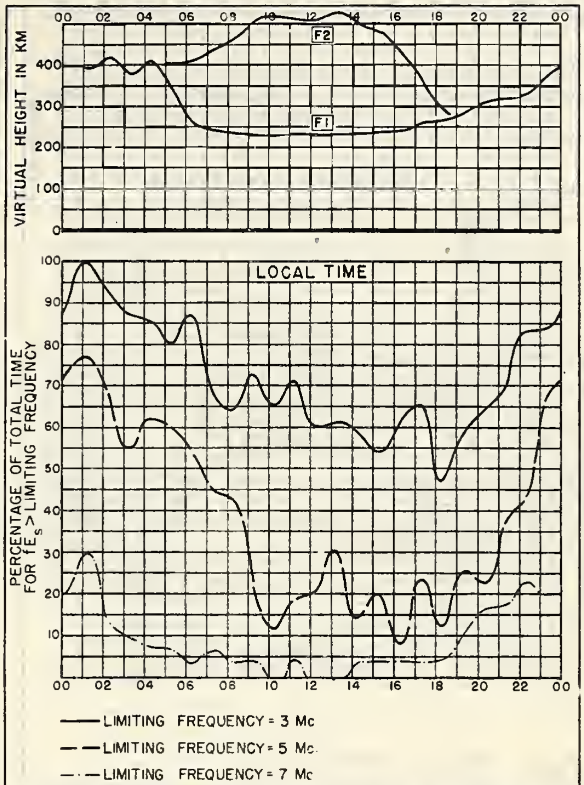

Fig. 6. FAIRBANKS, ALASKA AUGUST 1947

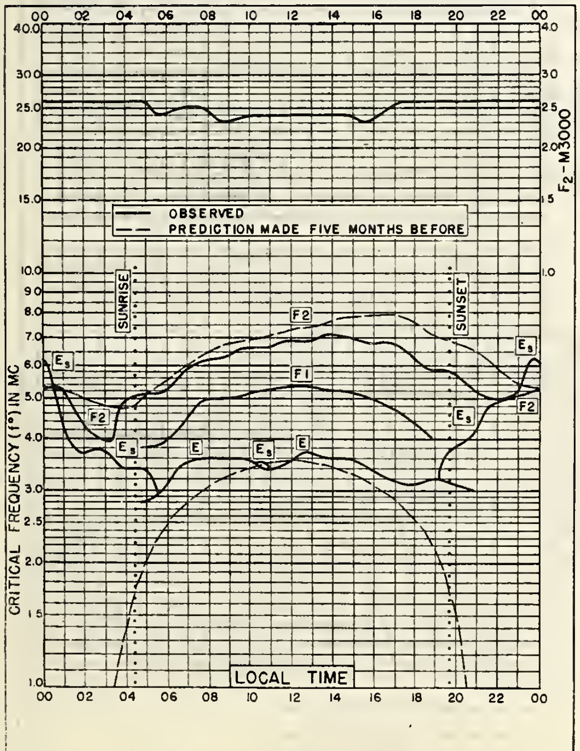

Fig. 7. CHURCHILL, CANADA
58.8°N, 94.2°W AUGUST 1947

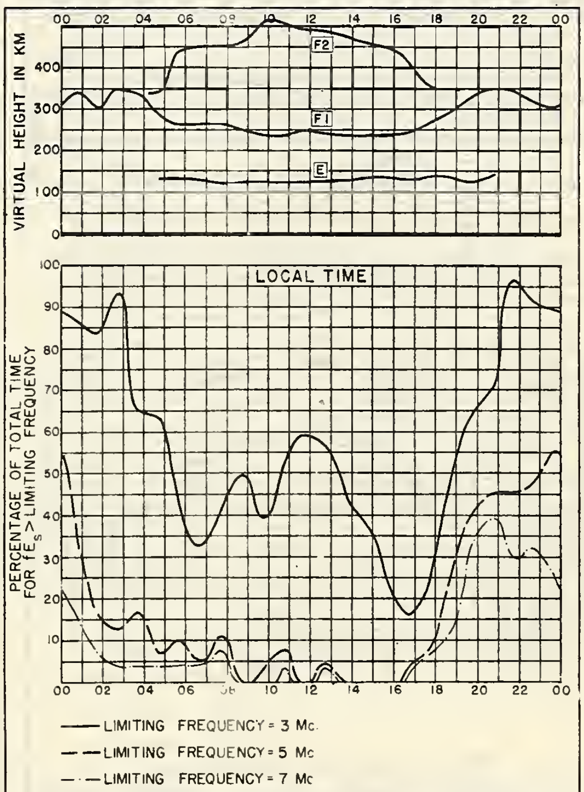

Fig. 8. CHURCHILL, CANADA AUGUST 1947

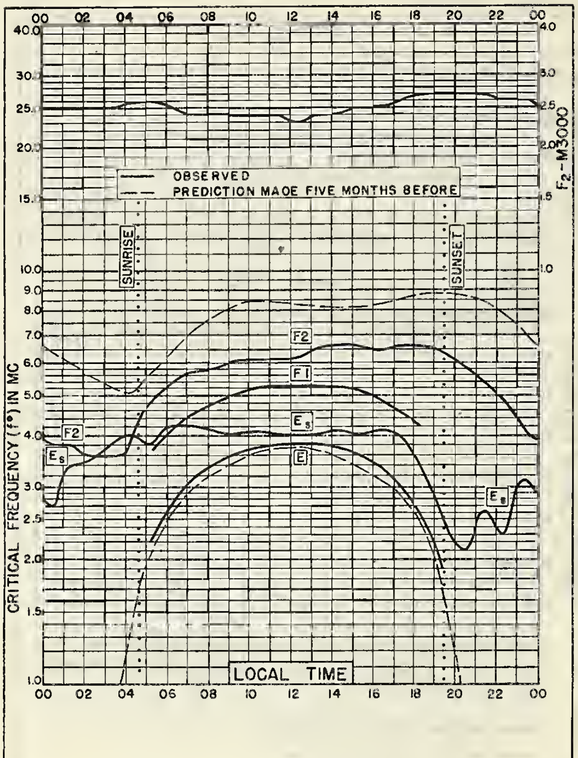

Fig. 9. PRINCE RUPERT, CANADA
54.3°N, 130.3°W AUGUST 1947

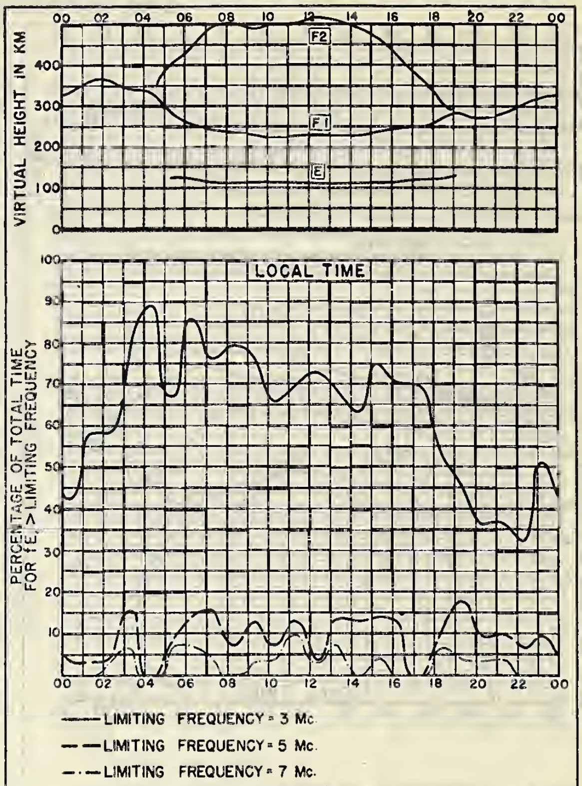

Fig. 10. PRINCE RUPERT, CANADA AUGUST 1947

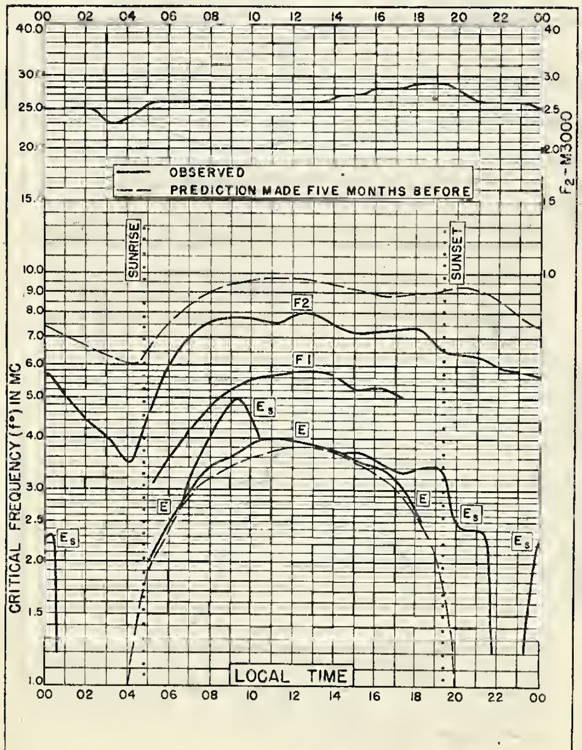

Fig. 11. ADAK, ALASKA
51.9°N, 176.6°W AUGUST 1947

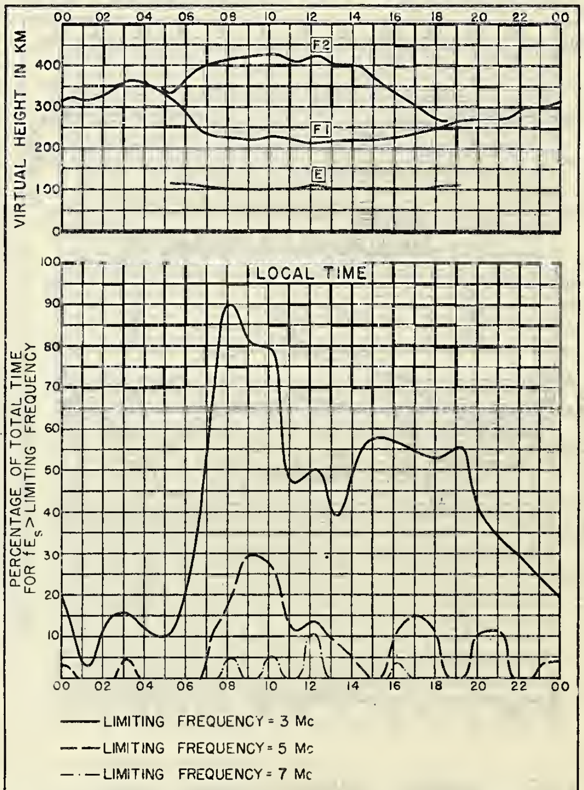

Fig. 12. ADAK, ALASKA AUGUST 1947

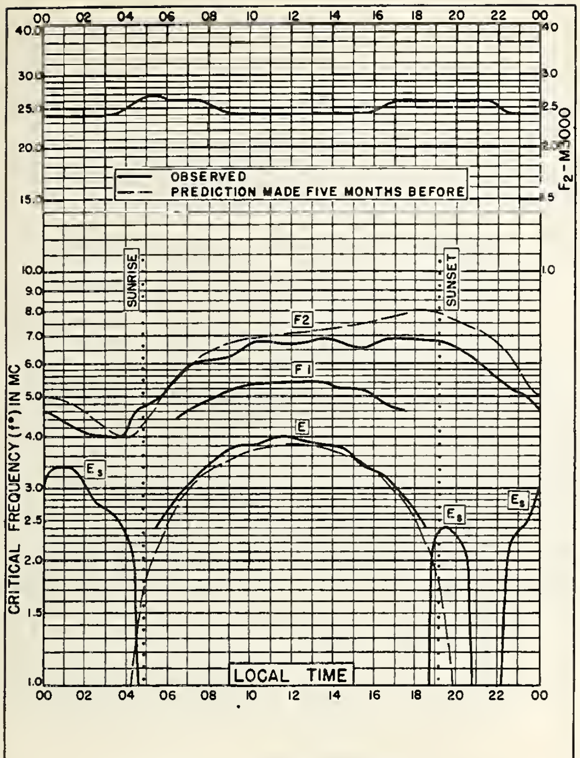

Fig.13. PORTAGE la PRAIRIE, CANADA
49.9°N, 98.3°W AUGUST 1947

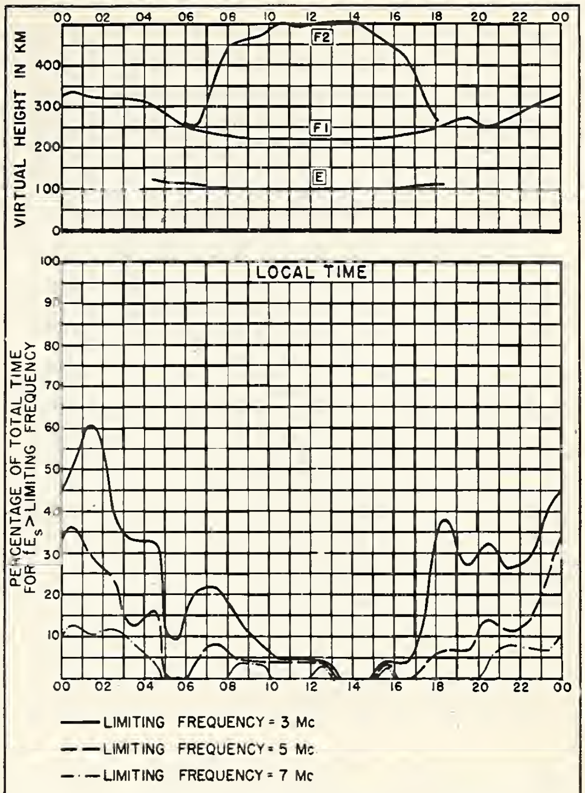

Fig. 14. PORTAGE la PRAIRIE, CANADA AUGUST 1947

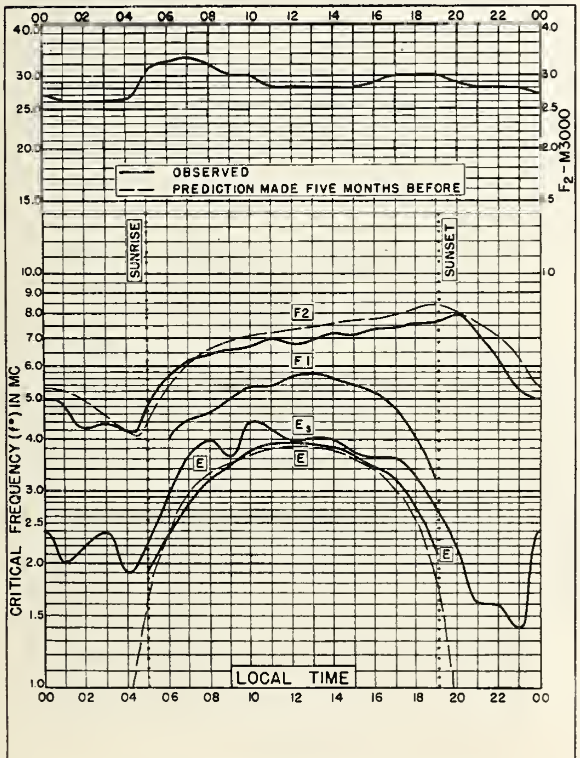

Fig. 15. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W AUGUST 1947

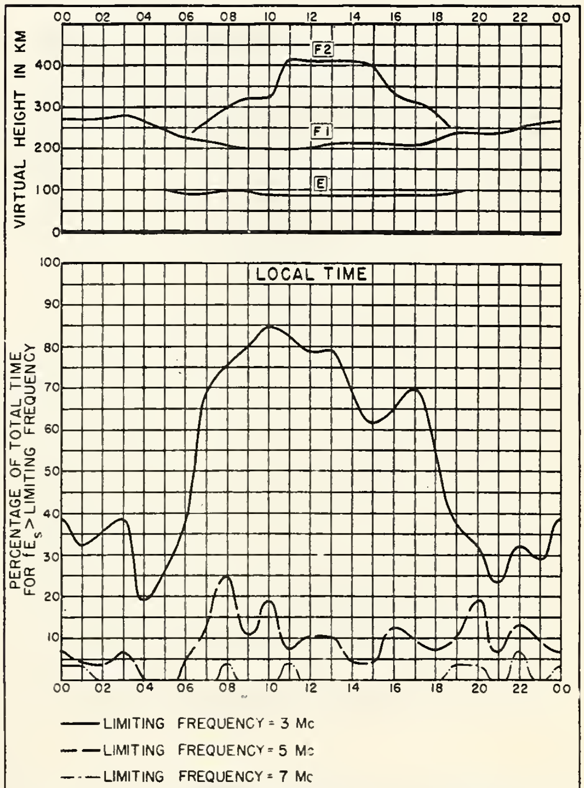

Fig. 16. ST. JOHN'S, NEWFOUNDLAND AUGUST 1947

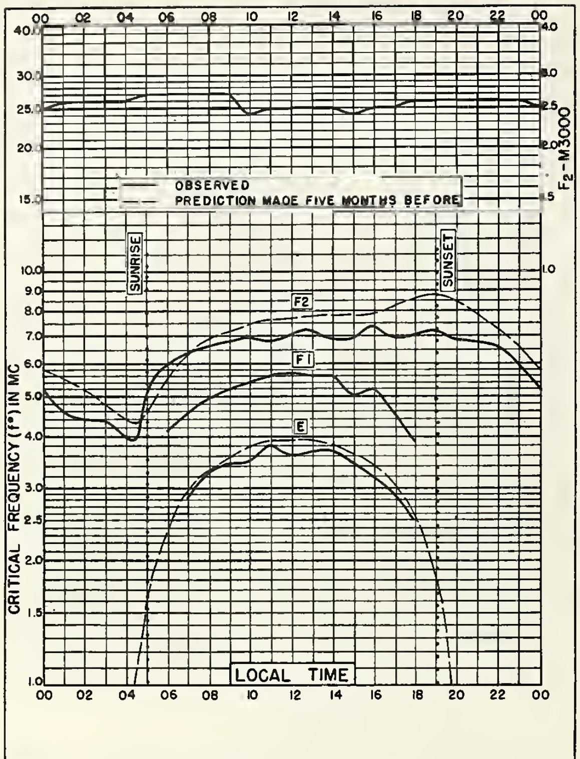

Fig. 17. OTTAWA, CANADA
45.5°N, 75.8°W AUGUST 1947

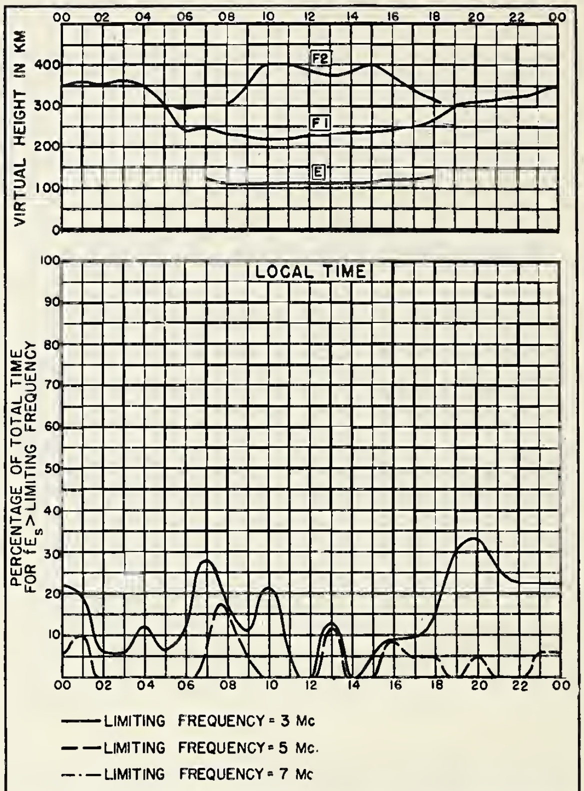

Fig. 18. OTTAWA, CANADA AUGUST 1947

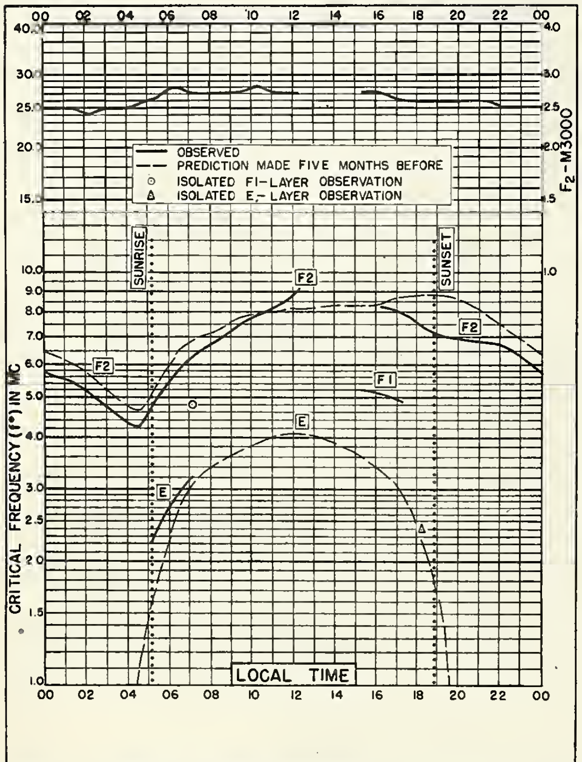

Fig. 19. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W AUGUST 1947

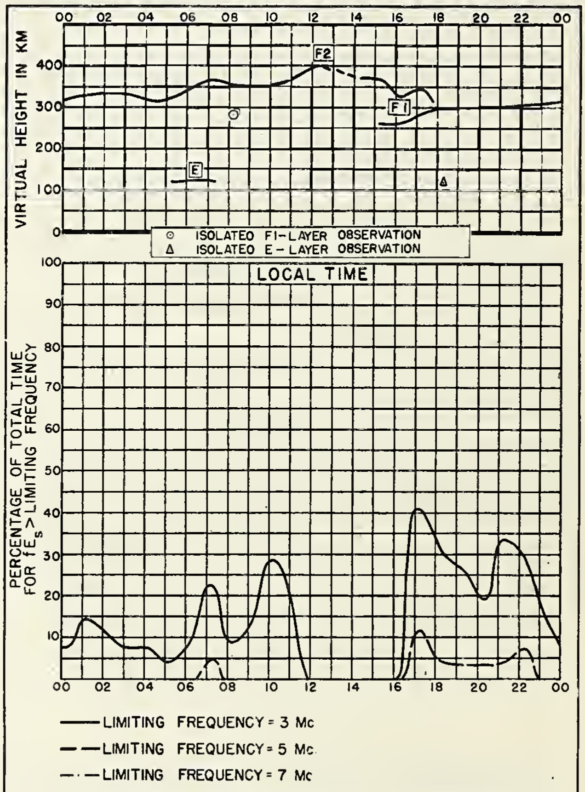

Fig. 20. BOSTON, MASSACHUSETTS AUGUST 1947

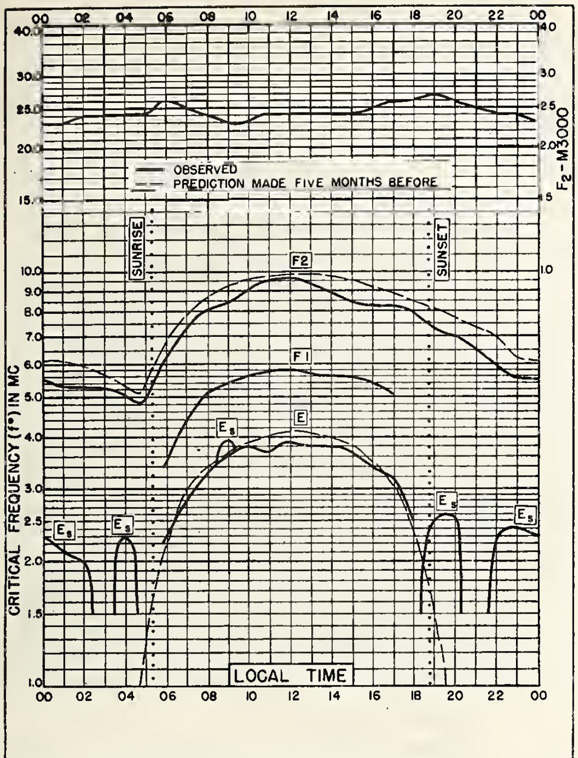

Fig. 21. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W AUGUST 1947

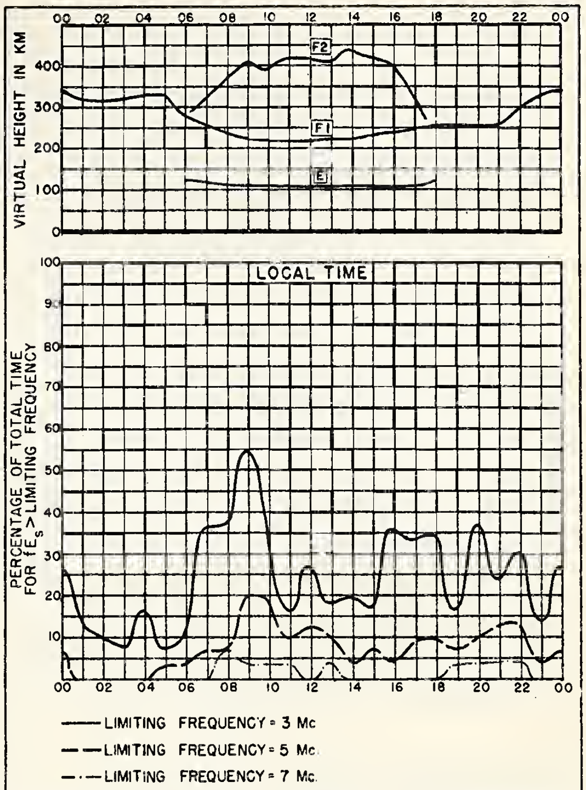

Fig. 22. SAN FRANCISCO, CALIFORNIA AUGUST 1947

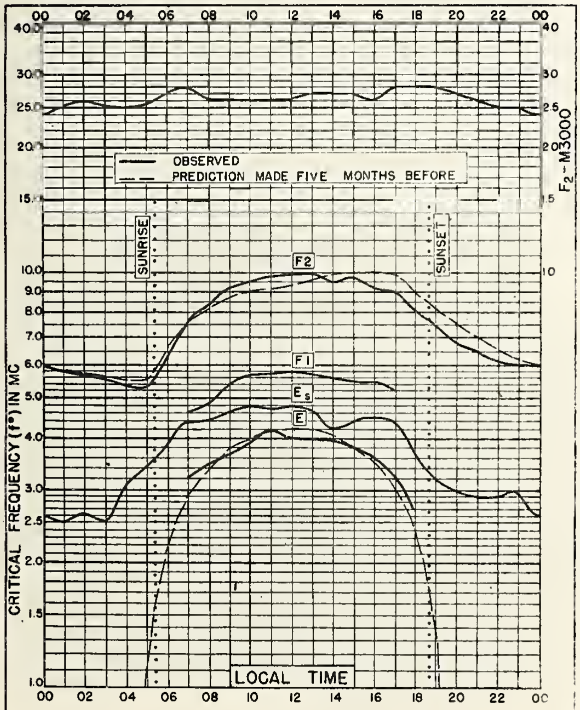

Fig. 23. WHITE SANDS, NEW MEXICO
32.6°N, 106.5°W AUGUST 1947

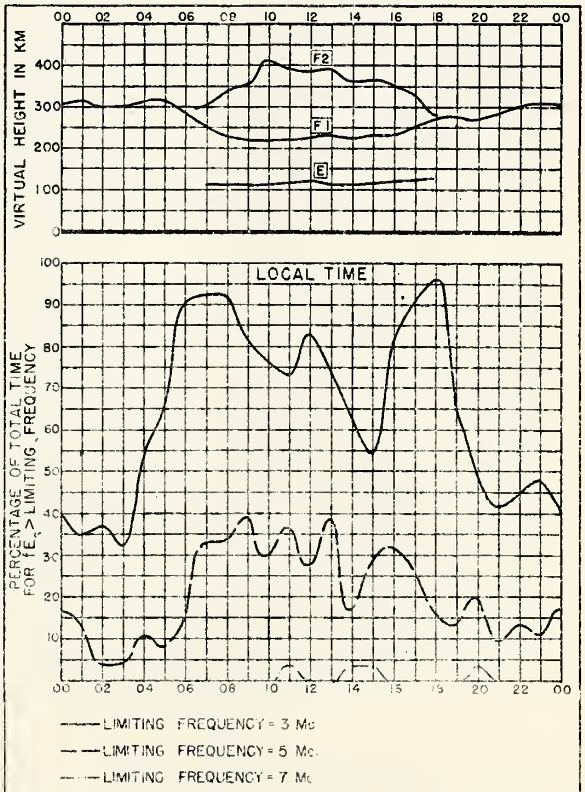

Fig. 24. WHITE SANDS, NEW MEXICO AUGUST 1947

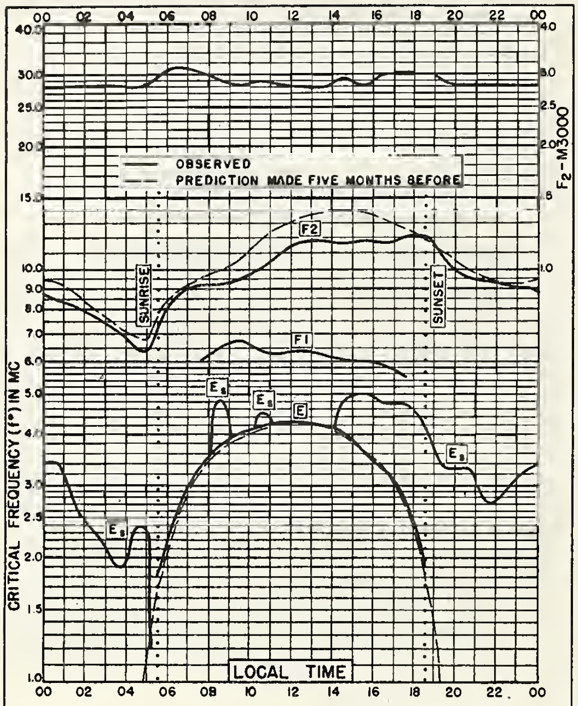

Fig. 25. WUCHANG, CHINA
30.6°N, 114.4°E AUGUST 1947

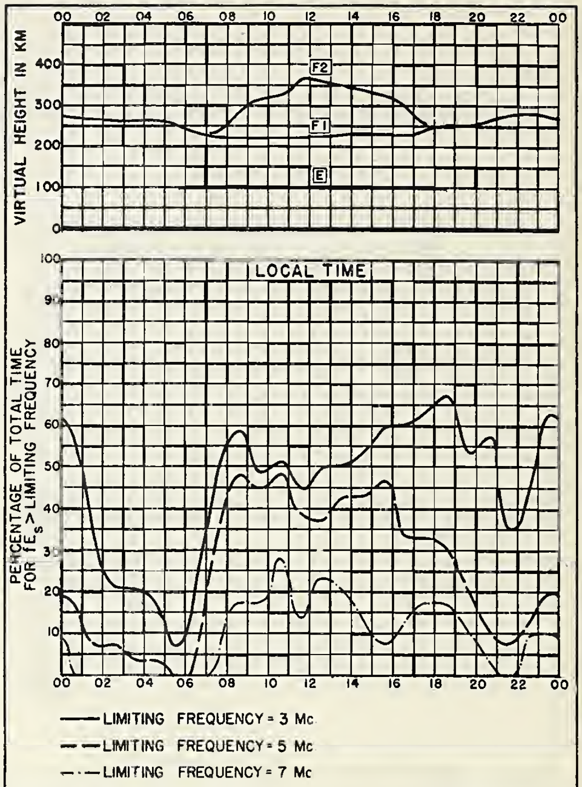

Fig. 26. WUCHANG, CHINA AUGUST 1947

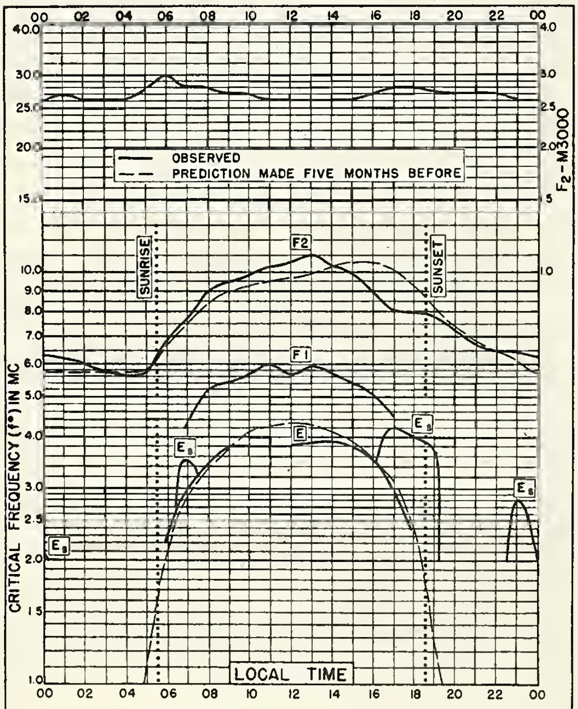

Fig 27. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W AUGUST 1947

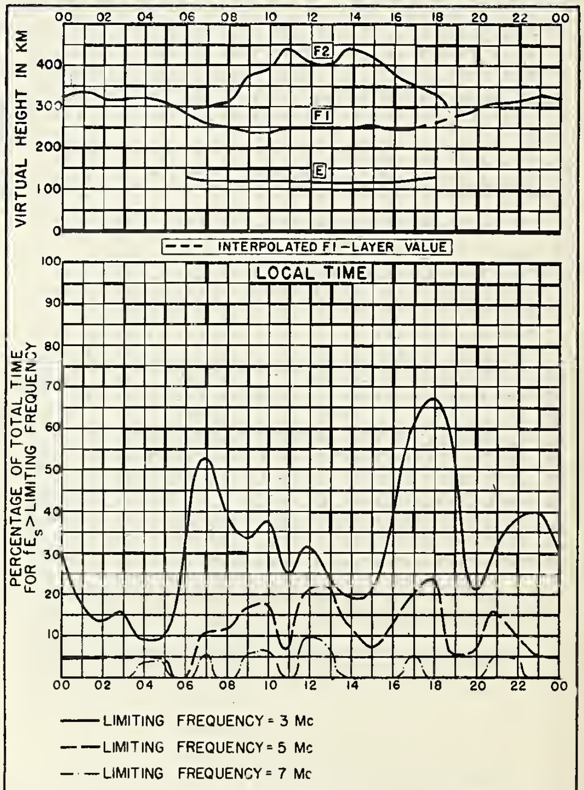

Fig. 28. BATON ROUGE, LOUISIANA AUGUST 1947

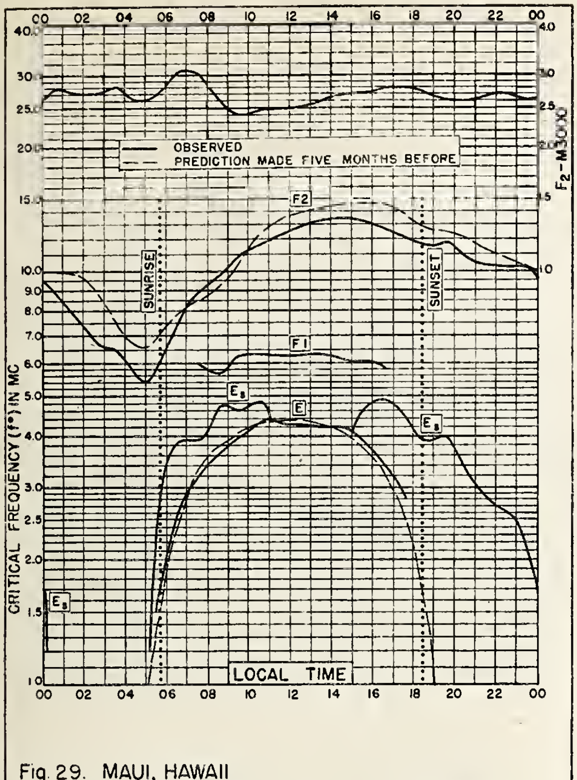

Fig. 29. MAUI, HAWAII
20.8°N, 156.5°W AUGUST 1947

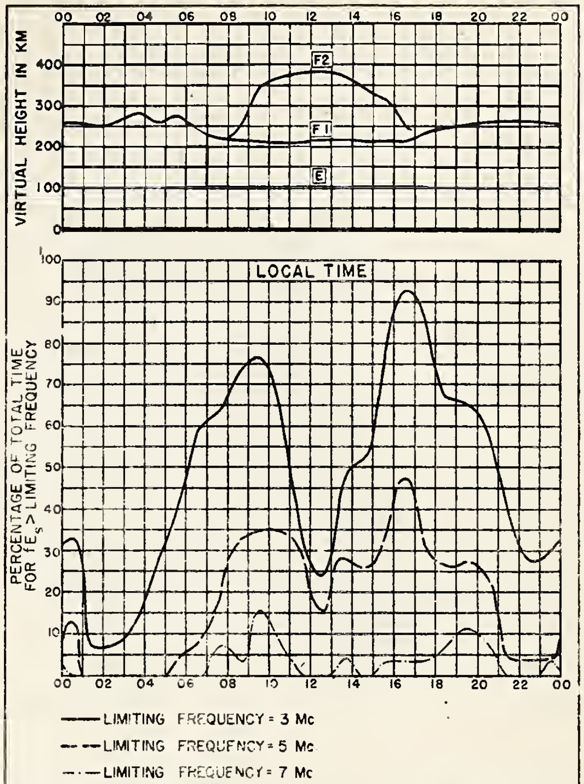

Fig. 30. MAUI, HAWAII AUGUST 1947

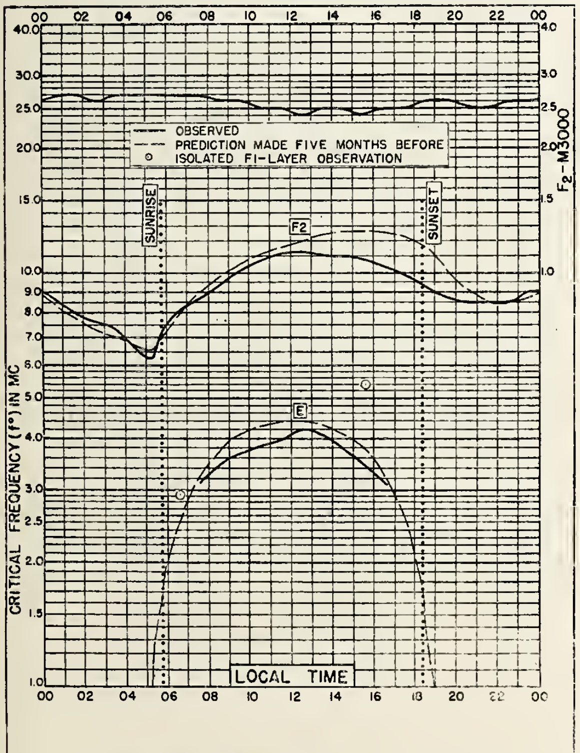

Fig. 31. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W AUGUST 1947

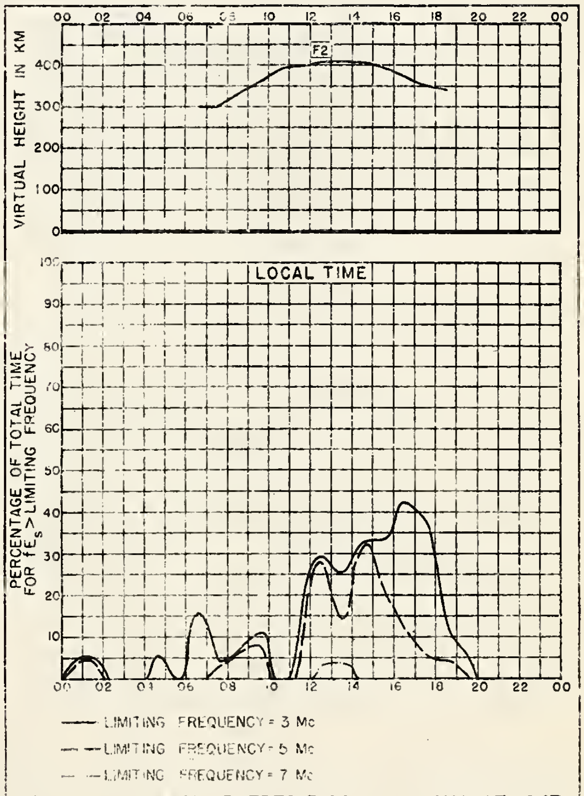

Fig. 32. SAN JUAN, PUERTO RICO AUGUST 1947

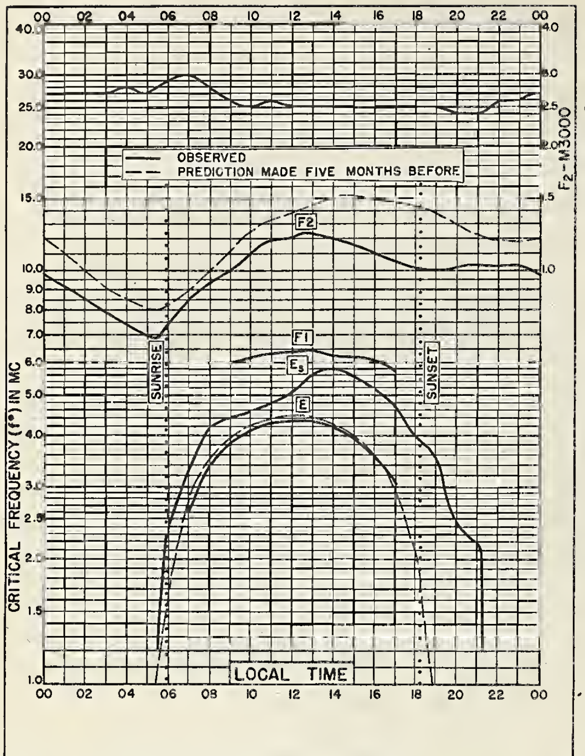

Fig.33. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W AUGUST 1947

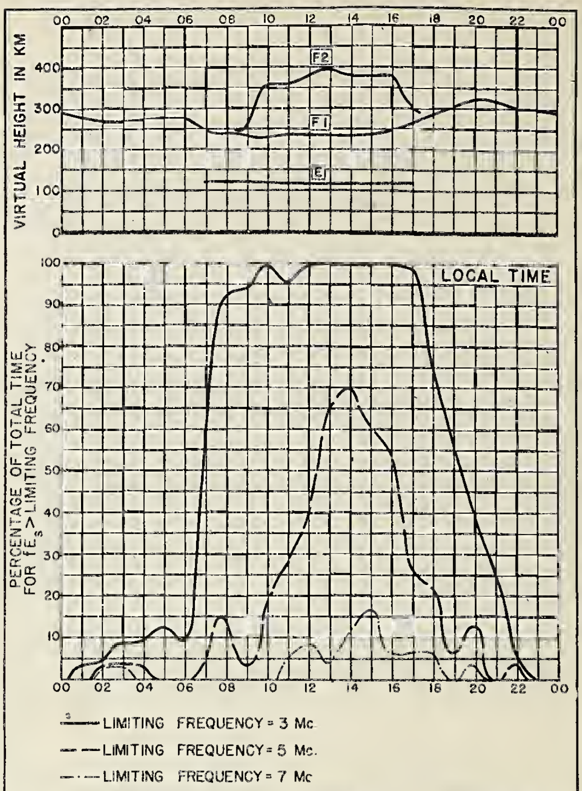

Fig.34. TRINIDAD, BRIT. WEST INDIES AUGUST 1947

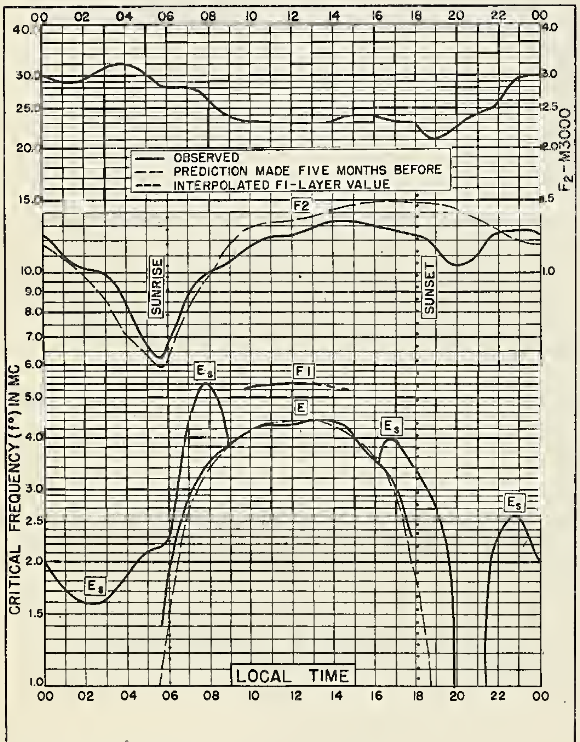

Fig.35. PALMYRA I.
5.9°N, 162.1°W AUGUST 1947

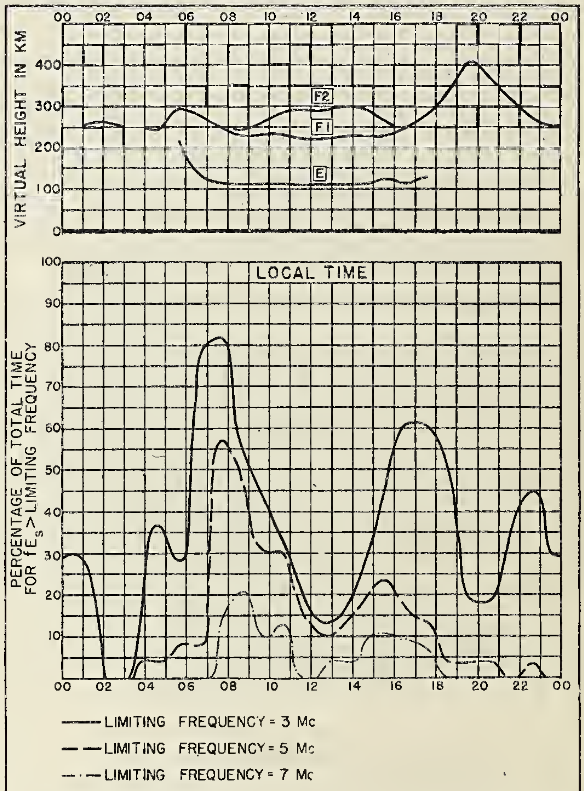

Fig.36. PALMYRA I. AUGUST 1947

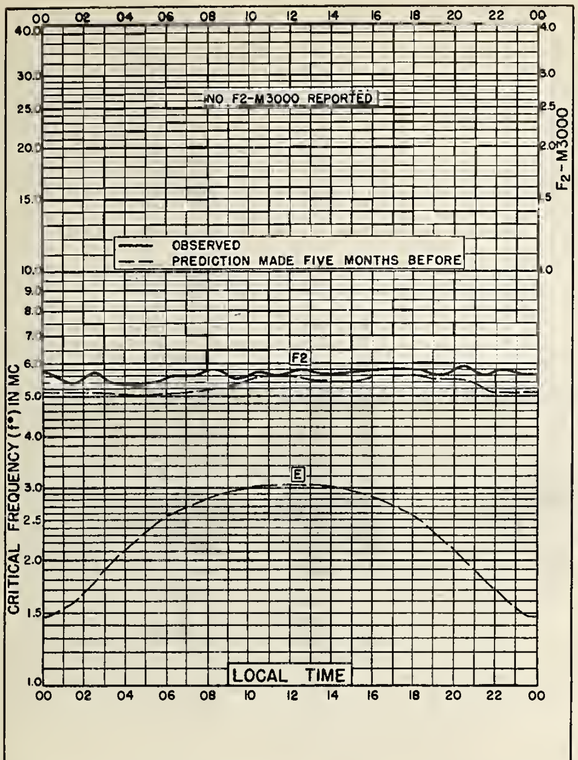

Fig. 37. CLYDE, BAFFIN I.
70.5°N, 68.6°W JULY 1947

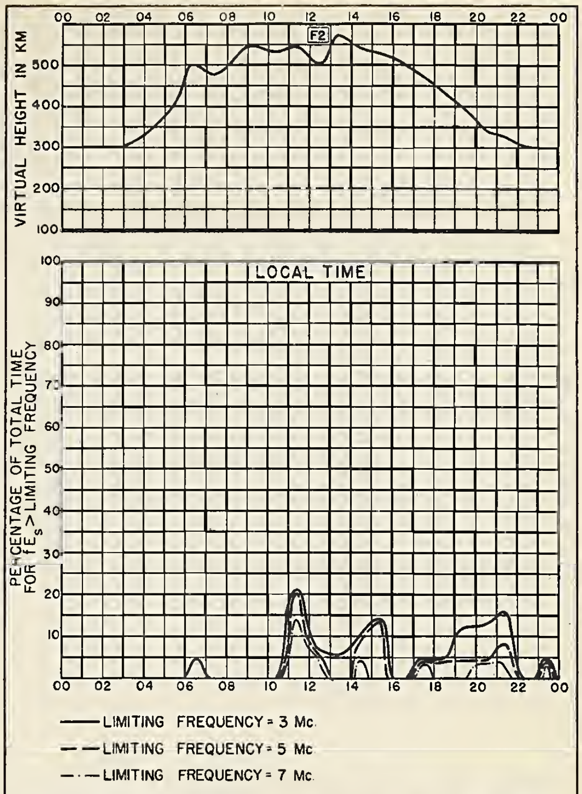

Fig. 38. CLYDE, BAFFIN I. JULY 1947

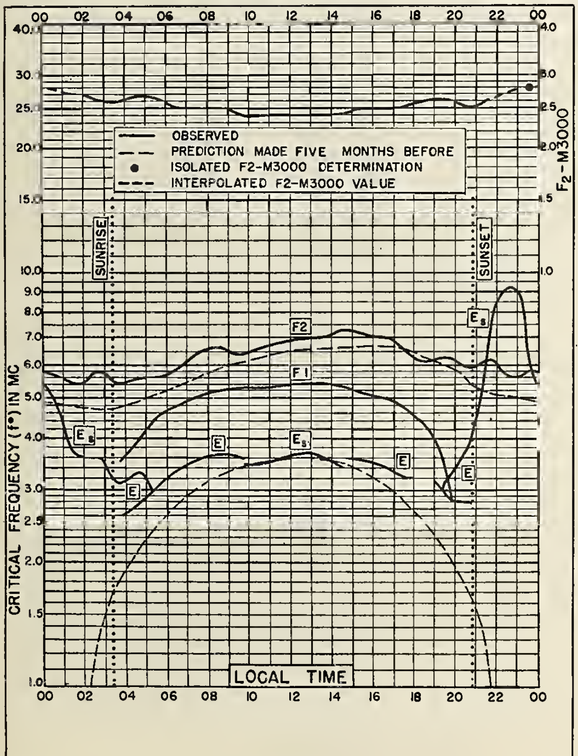

Fig. 39. CHURCHILL, CANADA
58.8°N, 94.2°W JULY 1947

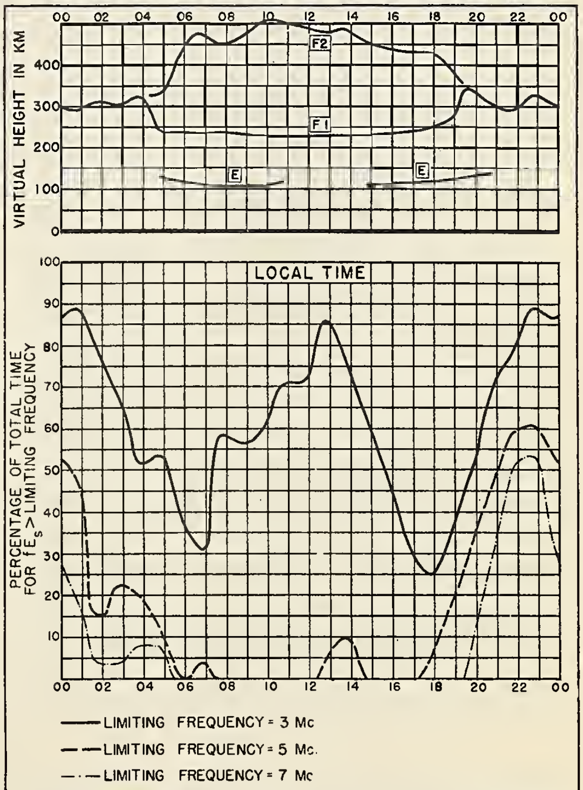

Fig. 40. CHURCHILL, CANADA JULY 1947

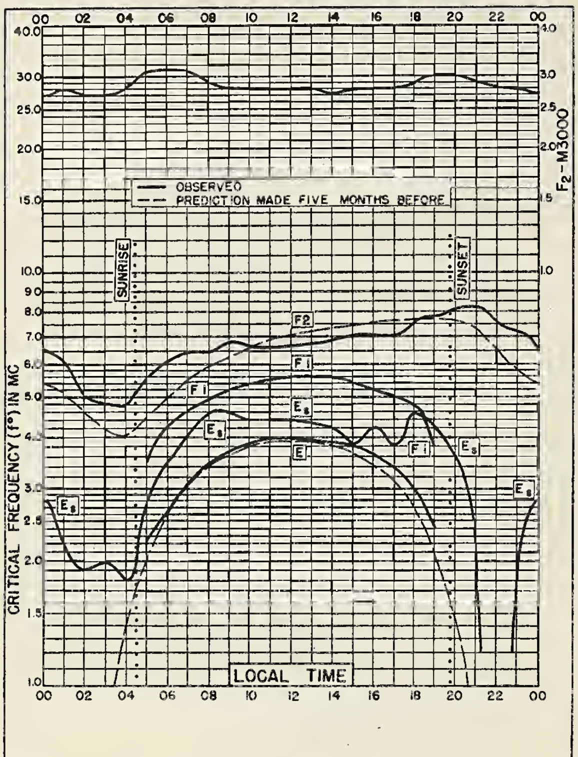

Fig. 41. ST. JOHN'S, NEWFOUNDLAND 47.6°N, 52.7°W JULY 1947

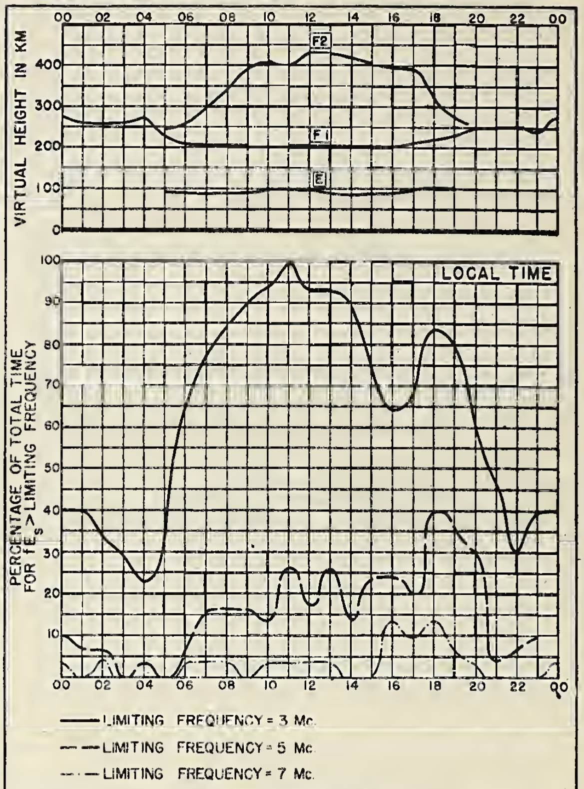

Fig. 42. ST. JOHN'S, NEWFOUNDLAND JULY 1947

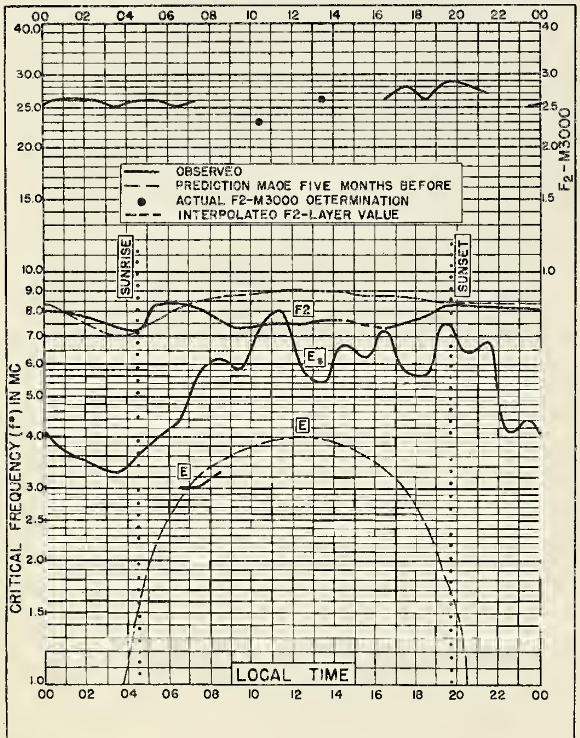

Fig 43. WAKKANAI, JAPAN 45.4°N, 141.7°E JULY 1947

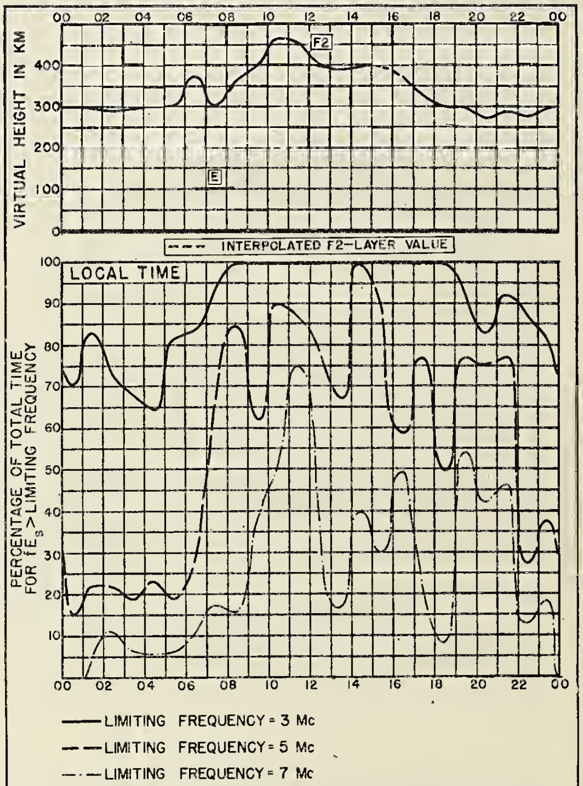

Fig. 44. WAKKANAI, JAPAN JULY 1947

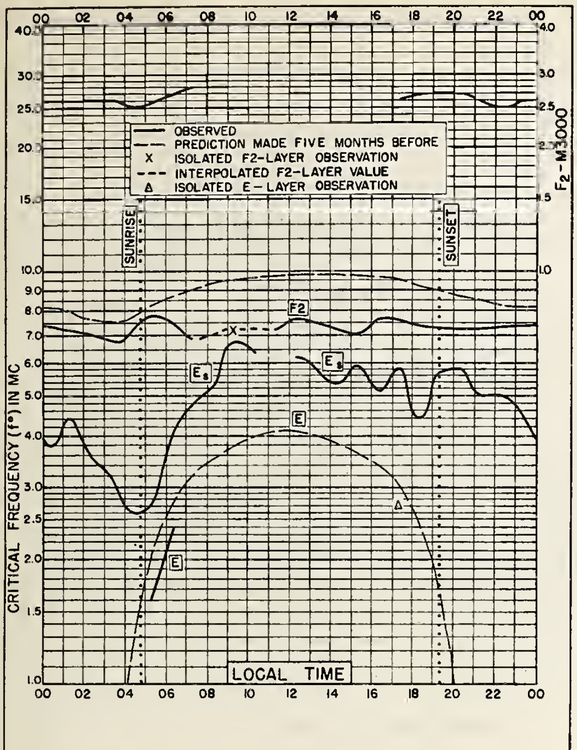

Fig. 45. FUKAURA, JAPAN
40.6°N, 139.9°E JULY 1947

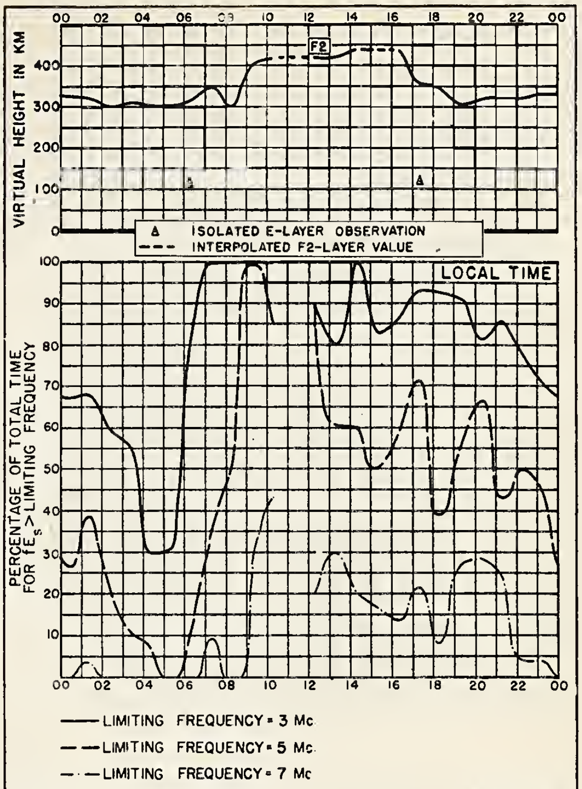

Fig. 46. FUKAURA, JAPAN JULY 1947

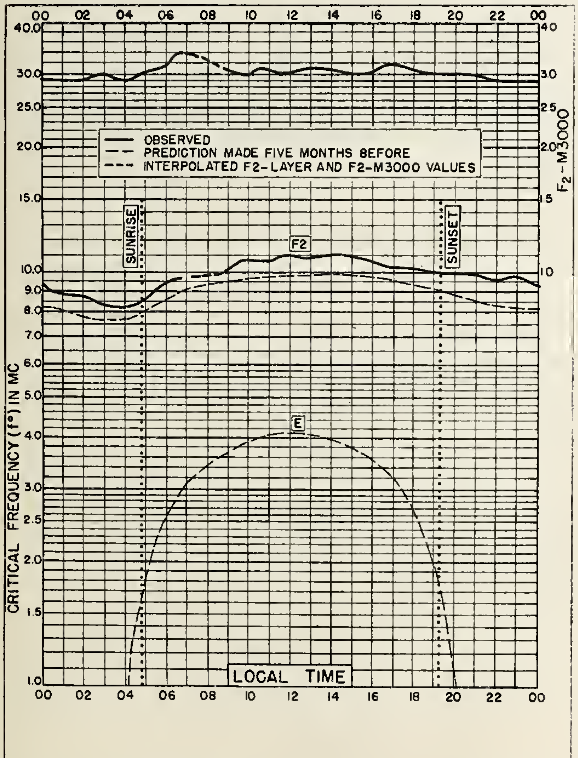

Fig. 47. PEIPING, CHINA
39.9°N, 116.4°E JULY 1947

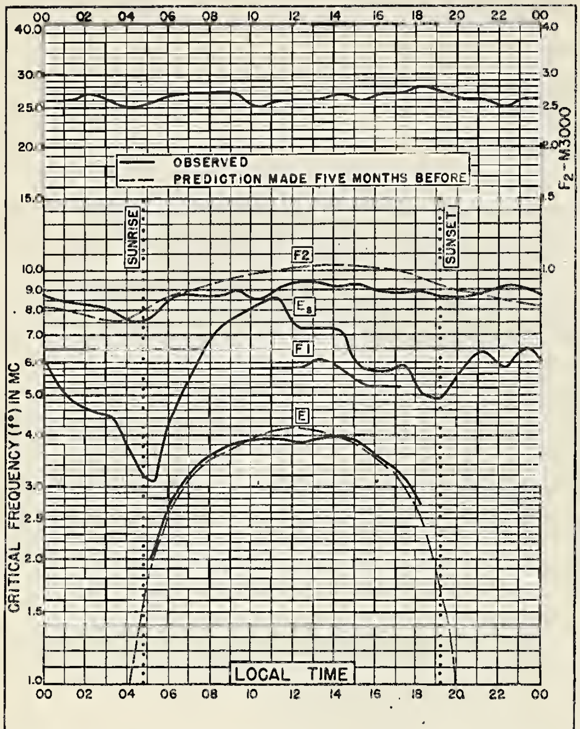

Fig. 48. SHIBATA, JAPAN
37.9°N, 139.3°E JULY 1947

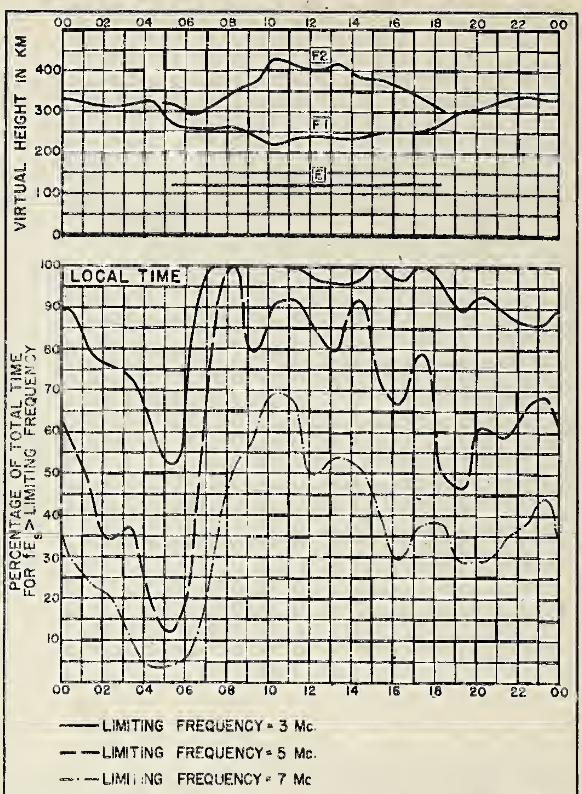

Fig. 49. SHIBATA, JAPAN JULY 1947

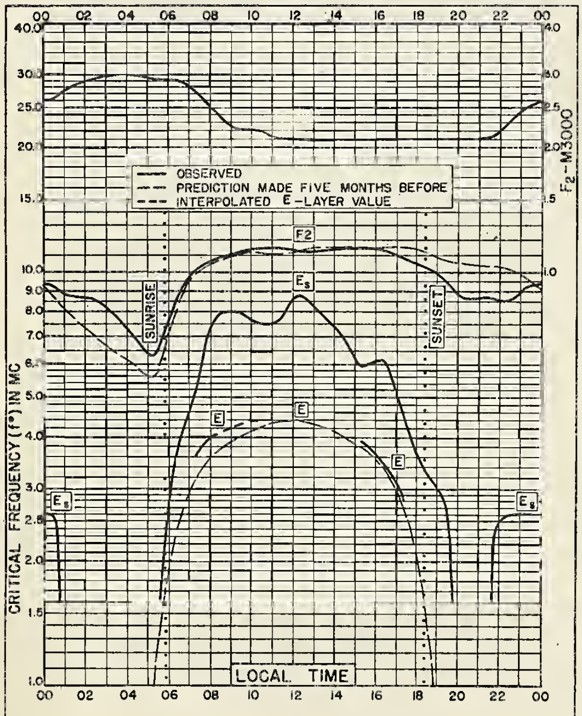

Fig. 50. LEYTE, PHILIPPINE IS.
11.0°N, 125.0°E JULY 1947

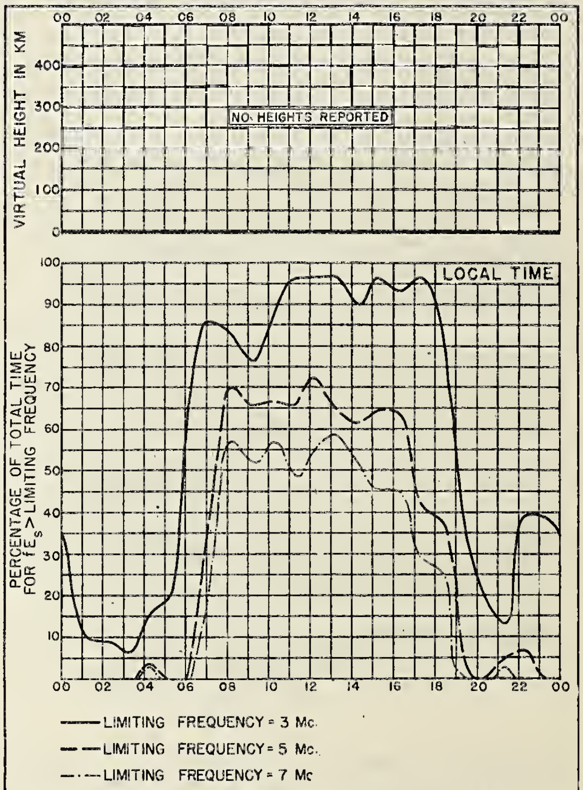

Fig. 51. LEYTE, PHILIPPINE IS. JULY 1947

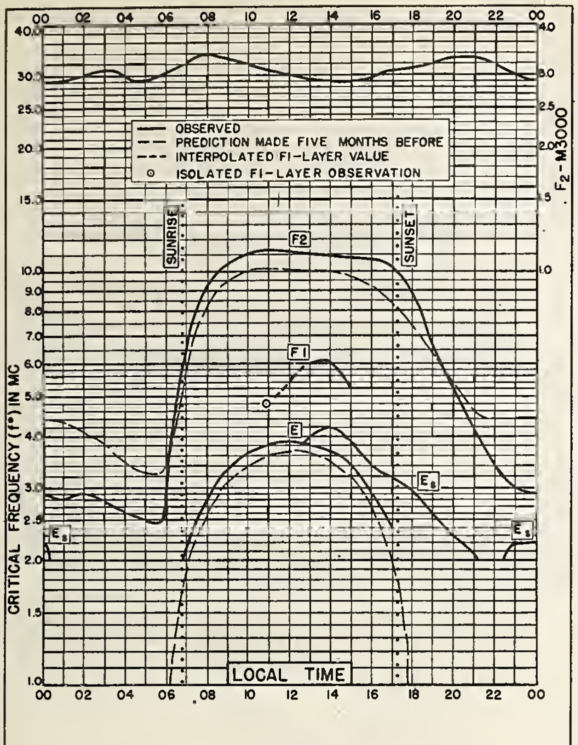

Fig 52. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E JULY 1947

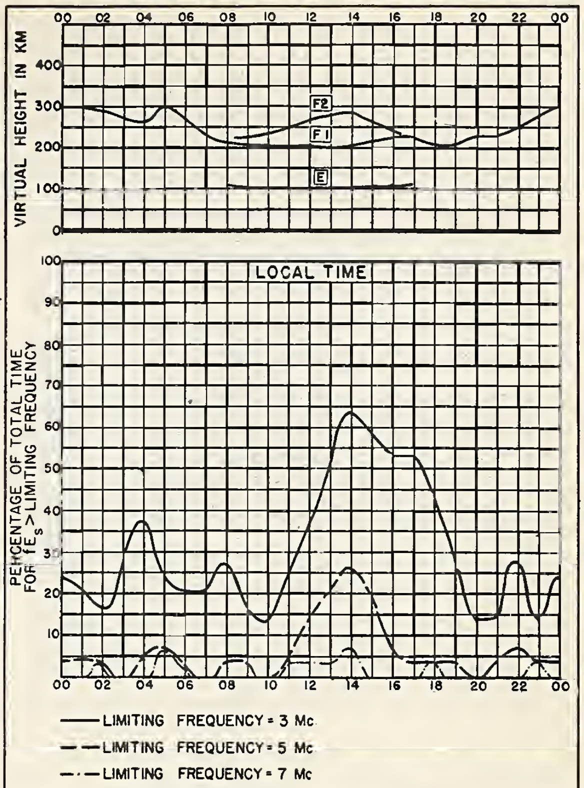

Fig. 53. JOHANNESBURG, U. OF S. AFRICA JULY 1947

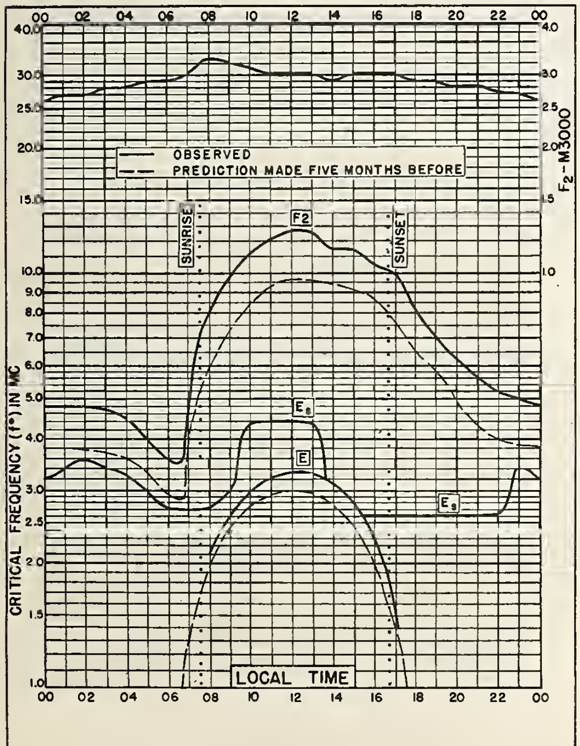

Fig. 54. CHRISTCHURCH, N. Z.
43.5°S, 172.7°E JULY 1947

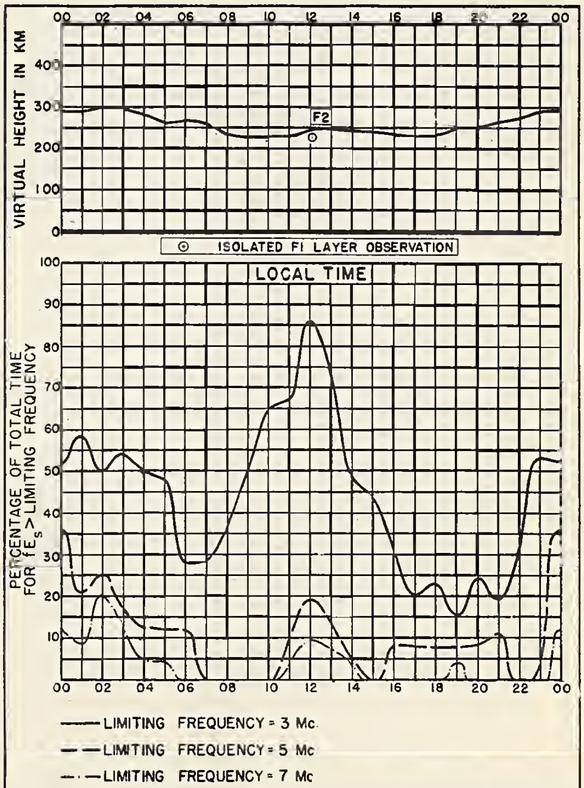

Fig. 55. CHRISTCHURCH, N. Z. JULY 1947

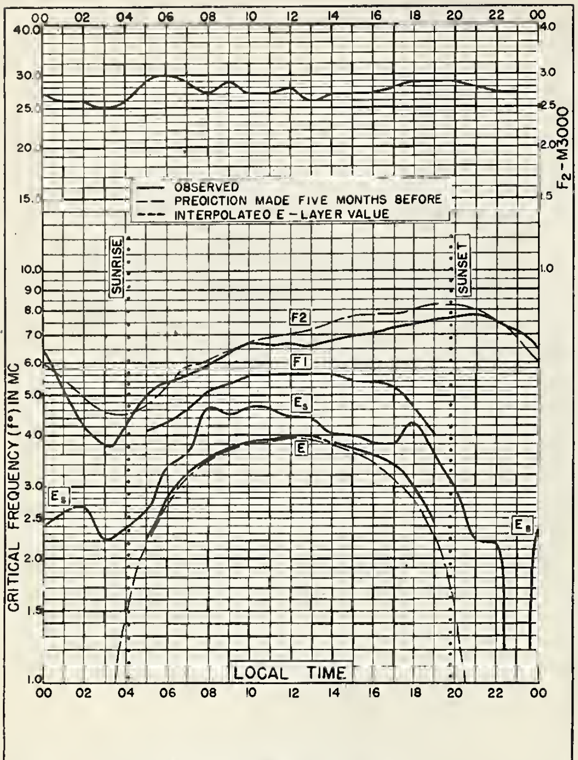

Fig. 56. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JUNE 1947

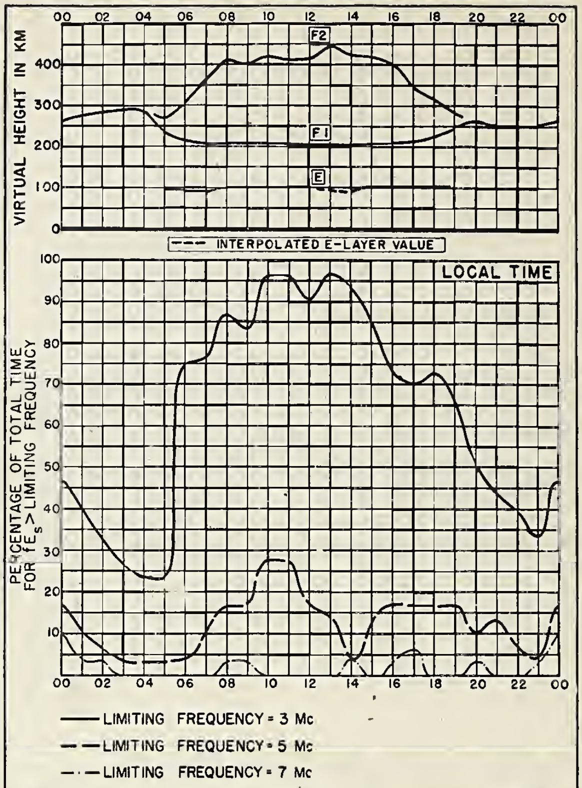

Fig. 57. ST. JOHN'S, NEWFOUNDLAND JUNE 1947

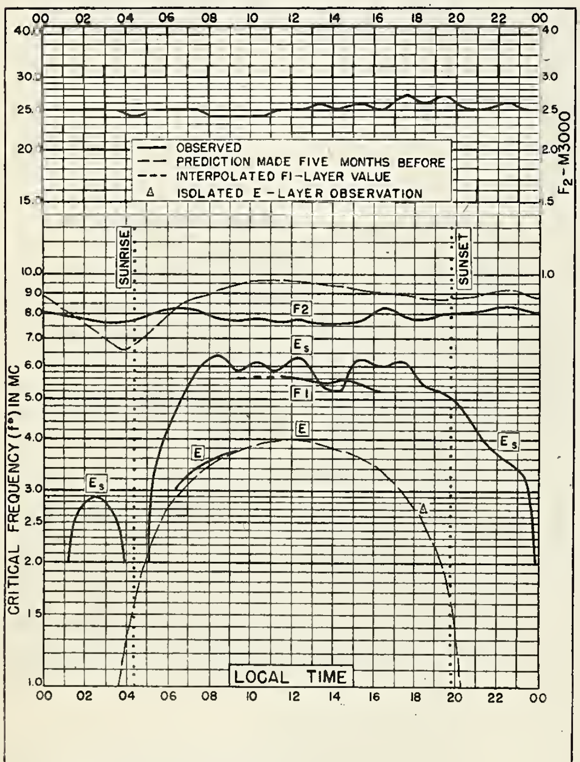

Fig. 58 WAKKANAI, JAPAN
45.4°N, 141.7°E JUNE 1947

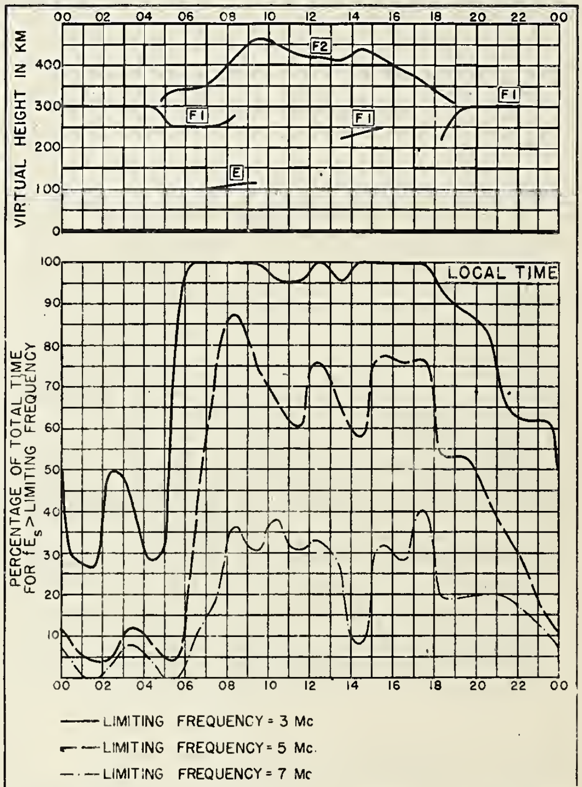

Fig. 59. WAKKANAI, JAPAN JUNE 1947

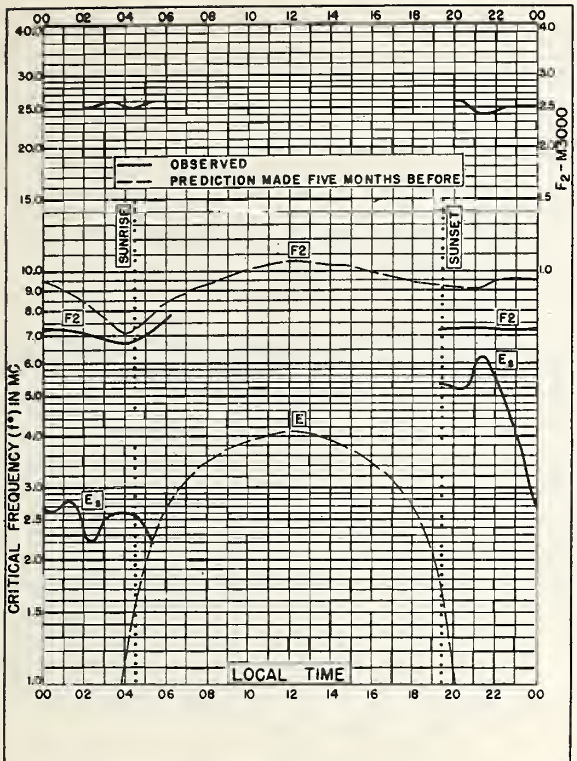

Fig. 60. FUKAURA, JAPAN
40.6°N, 139.9°E JUNE 1947

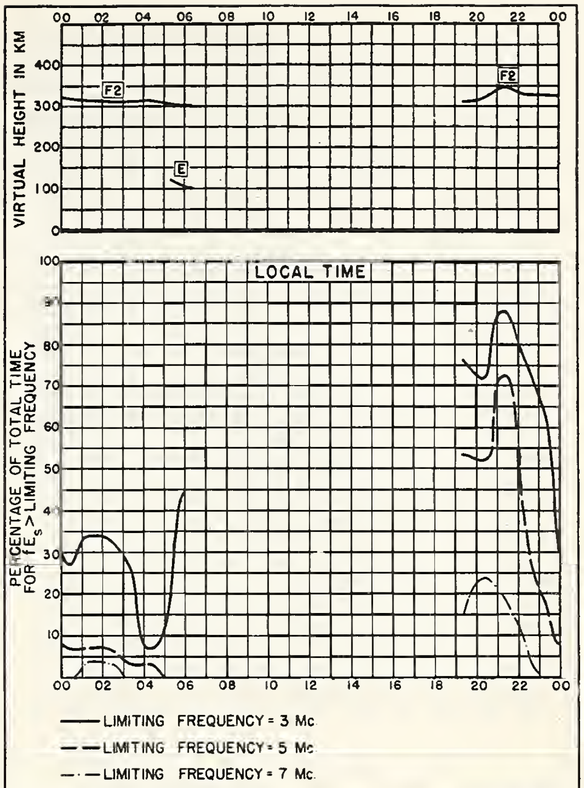

Fig. 61. FUKAURA, JAPAN JUNE 1947

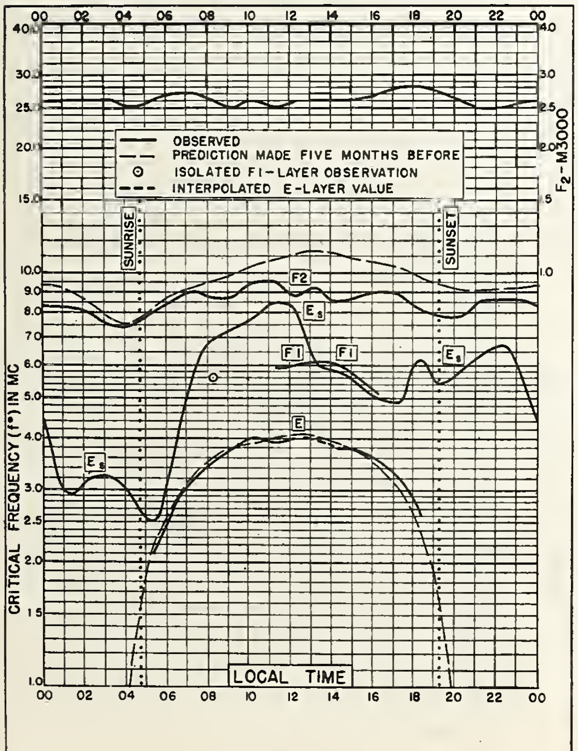

Fig. 62. SHIBATA, JAPAN
37.9°N, 139.3°E JUNE 1947

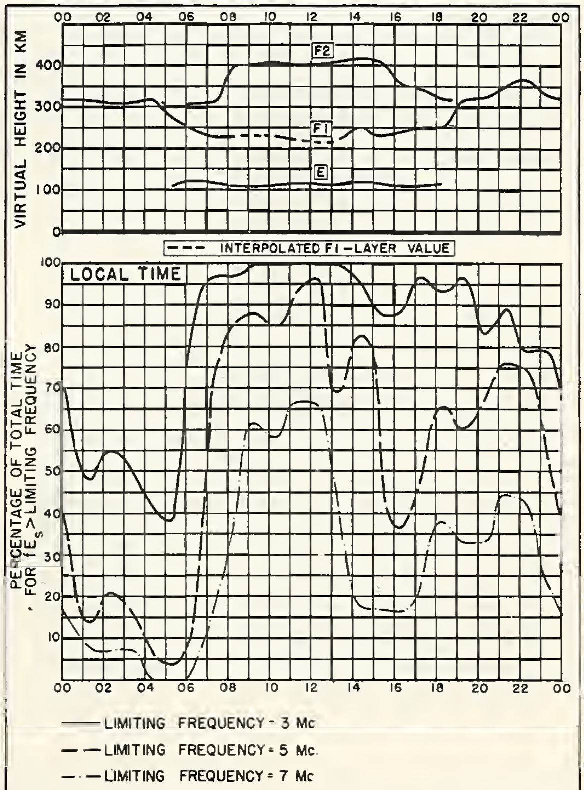

Fig. 63. SHIBATA, JAPAN JUNE 1947

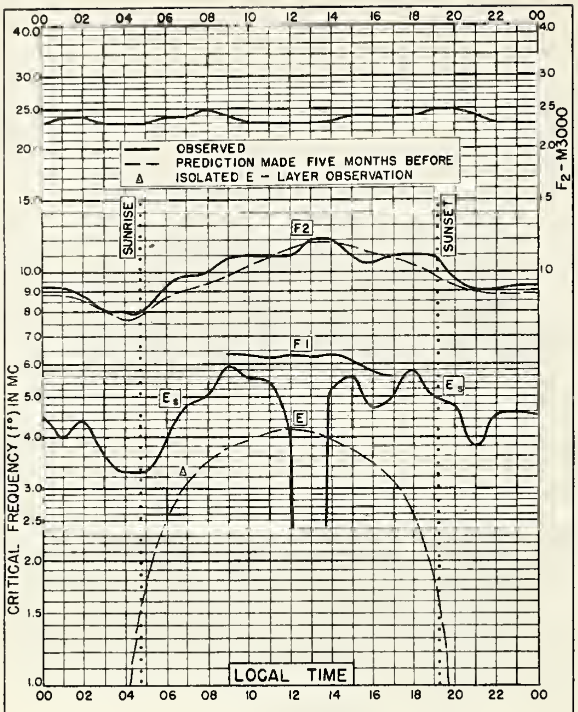

Fig. 64. LANCHOW, CHINA
36.1°N, 103.8°E JUNE 1947

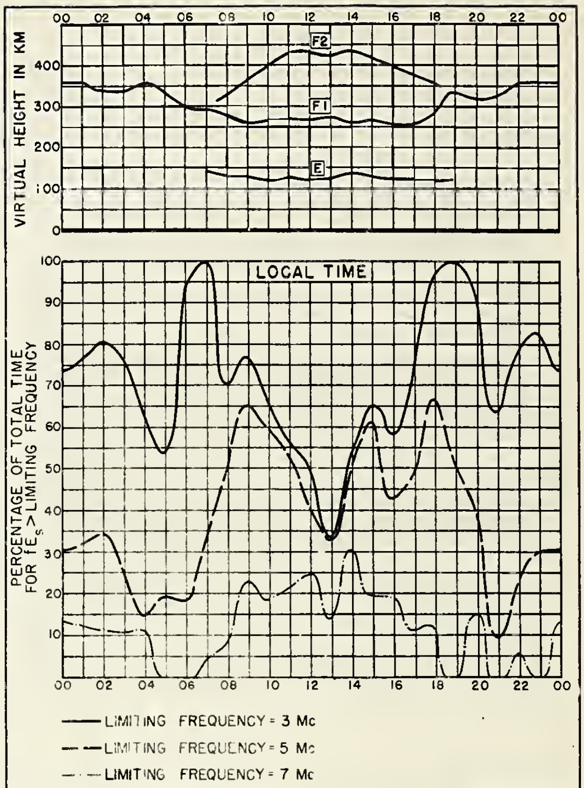

Fig. 65. LANCHOW, CHINA JUNE 1947

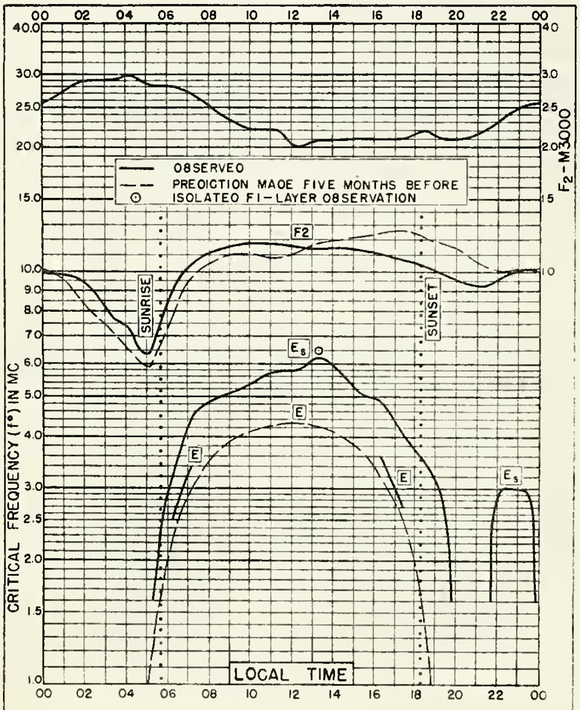

Fig. 66. LEYTE, PHILIPPINE IS.
11.0°N, 125.0°E JUNE 1947

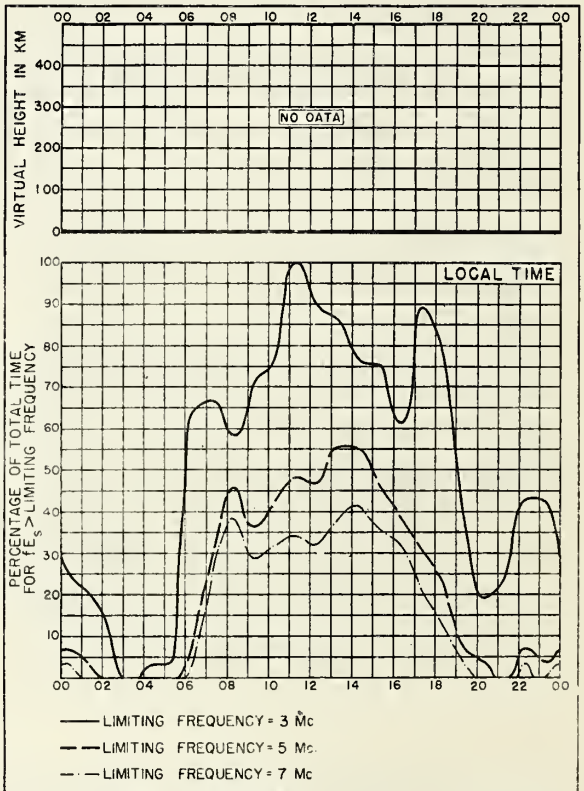

Fig. 67. LEYTE, PHILIPPINE IS. JUNE 1947

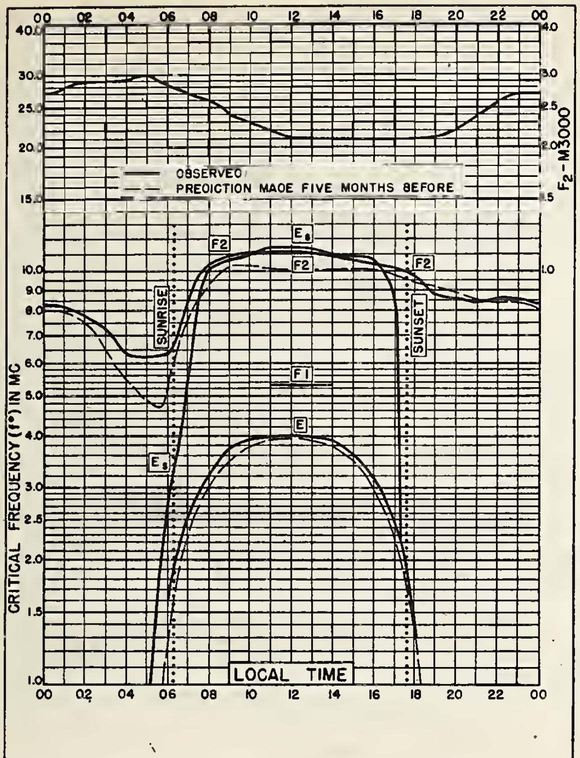

Fig. 68. HUANCAYO, PERU
12.0°S, 75.3°W JUNE 1947

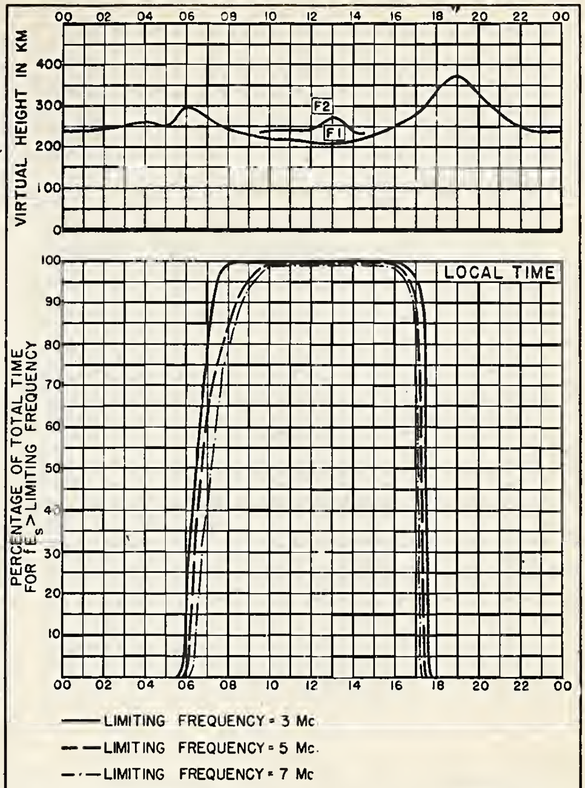

Fig. 69. HUANCAYO, PERU JUNE 1947

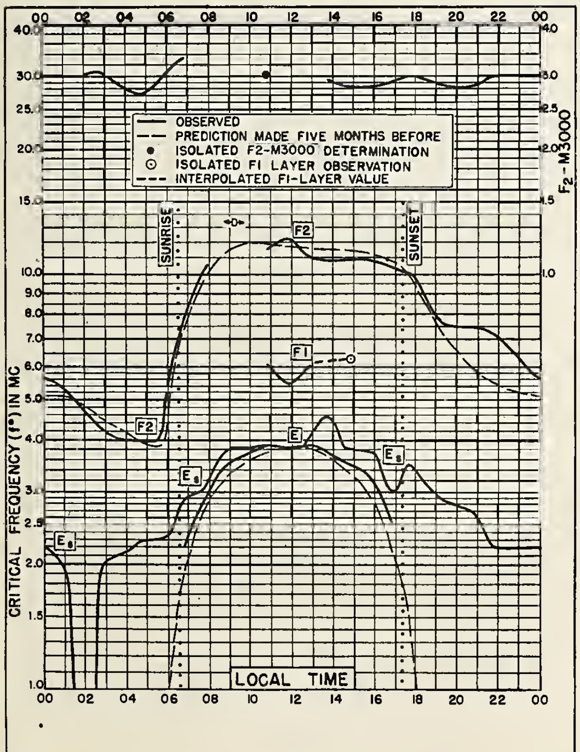

Fig. 70. TOWNSVILLE, AUSTRALIA
19.4°S, 146.5°E JUNE 1947

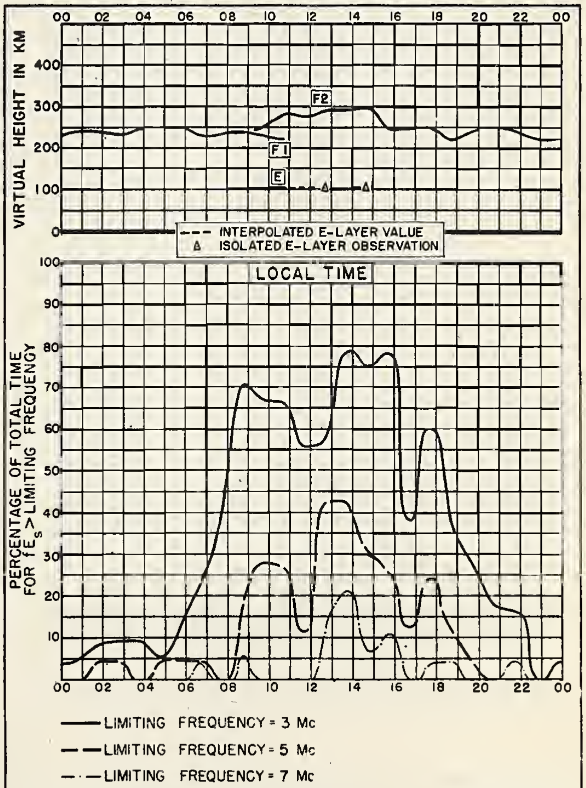

Fig. 71. TOWNSVILLE, AUSTRALIA JUNE 1947

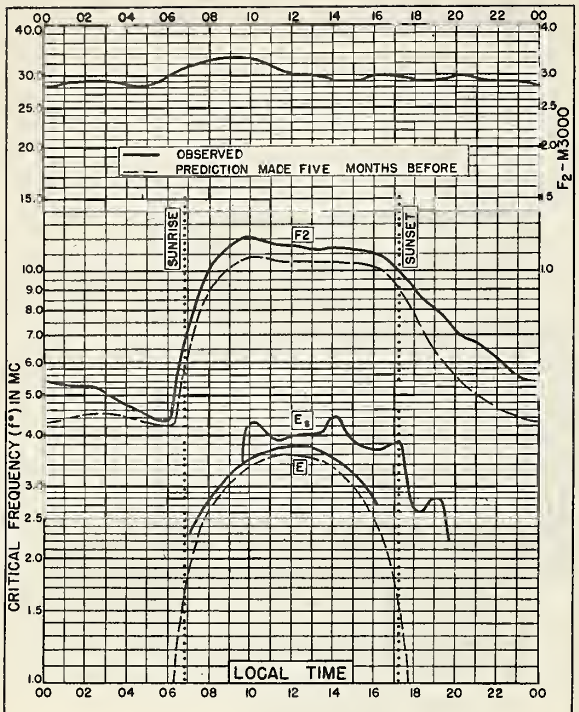

Fig. 72. BRISBANE, AUSTRALIA
27.5°S, 153.0°E JUNE 1947

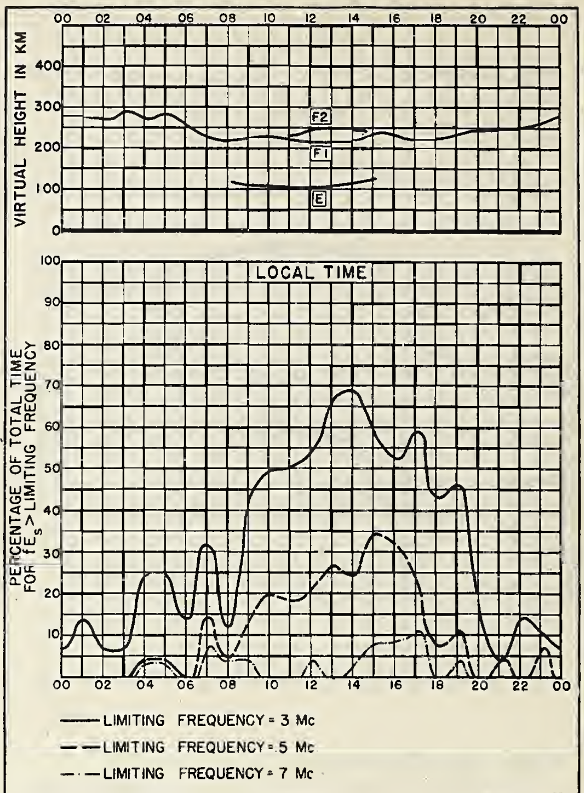

Fig. 73. BRISBANE, AUSTRALIA JUNE 1947

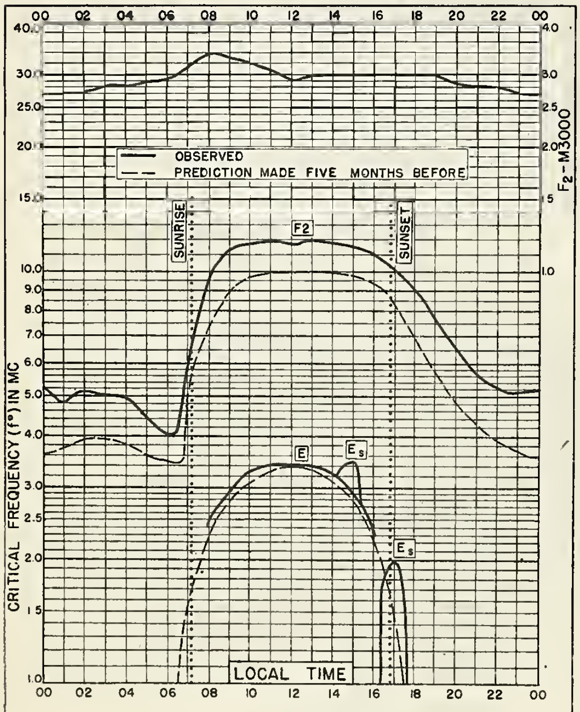

Fig. 74. CANBERRA, AUSTRALIA
35.3°S, 149.0°E JUNE 1947

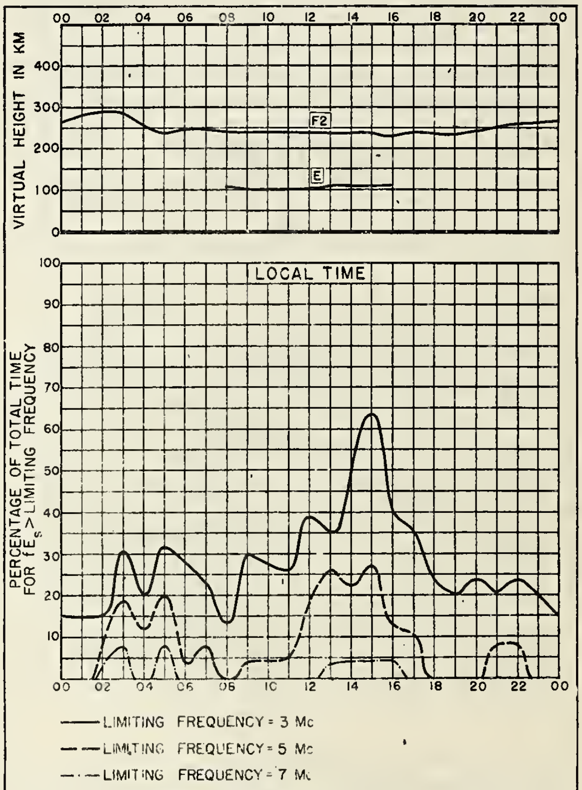

Fig. 75. CANBERRA, AUSTRALIA JUNE 1947

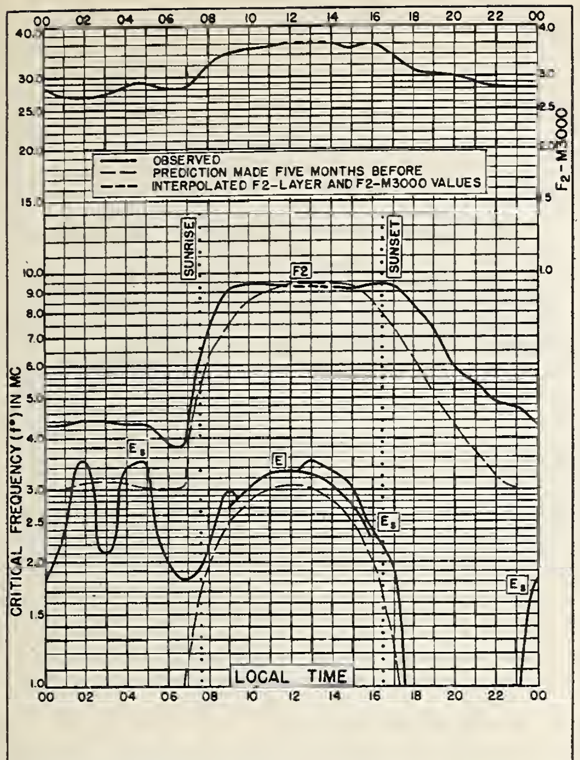

Fig. 76. HOBART, TASMANIA
42.8°S, 147.4°E JUNE 1947

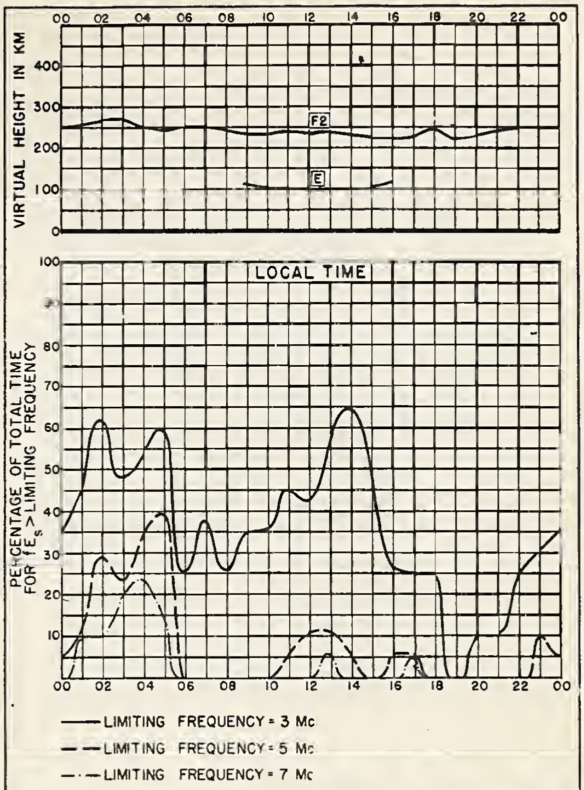

Fig. 77. HOBART, TASMANIA JUNE 1947

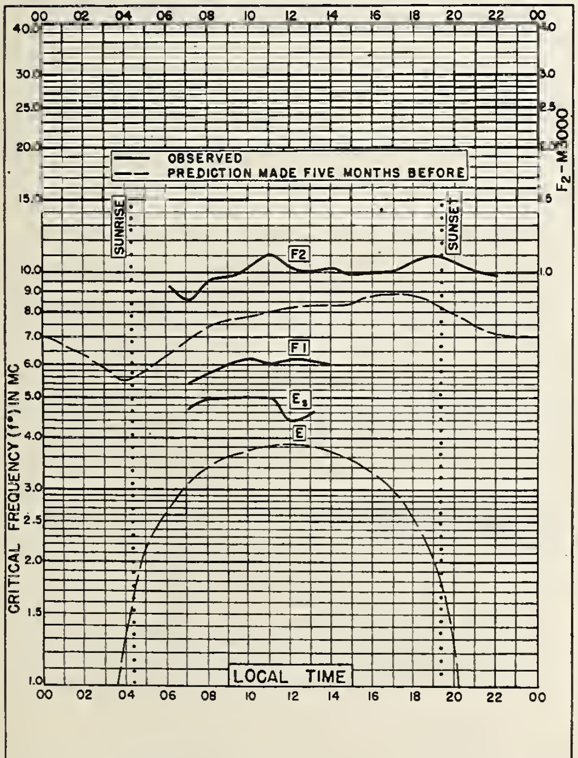

Fig. 78. BAGNEUX, FRANCE
48.8°N, 2.3°E MAY 1947

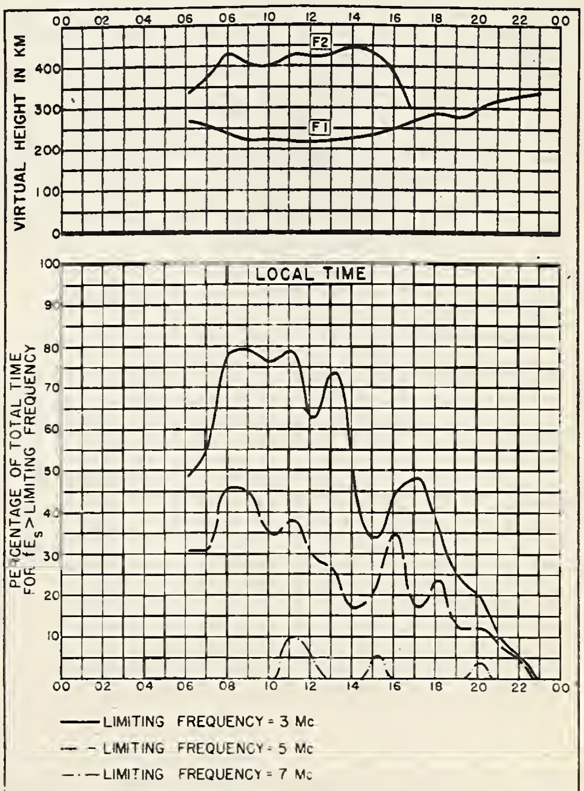

Fig. 79. BAGNEUX, FRANCE MAY 1947

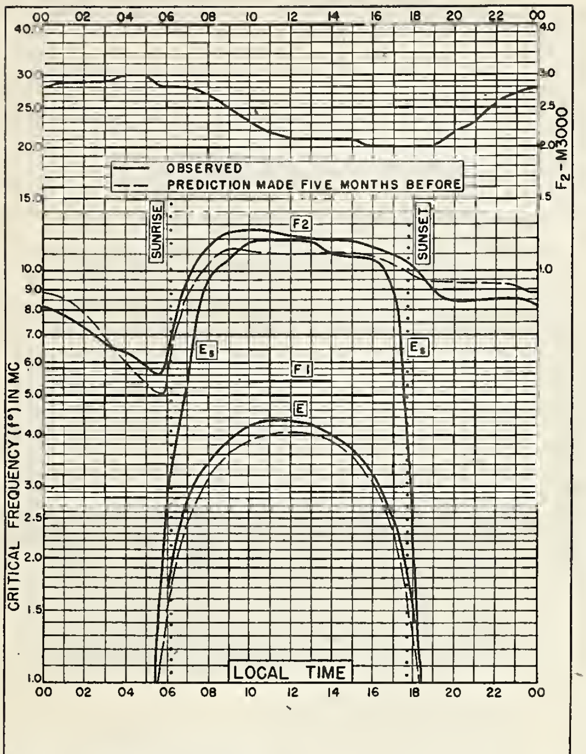

Fig. 80. HUANCAYO, PERU
12.0°S.75.3°W
MAY 1947

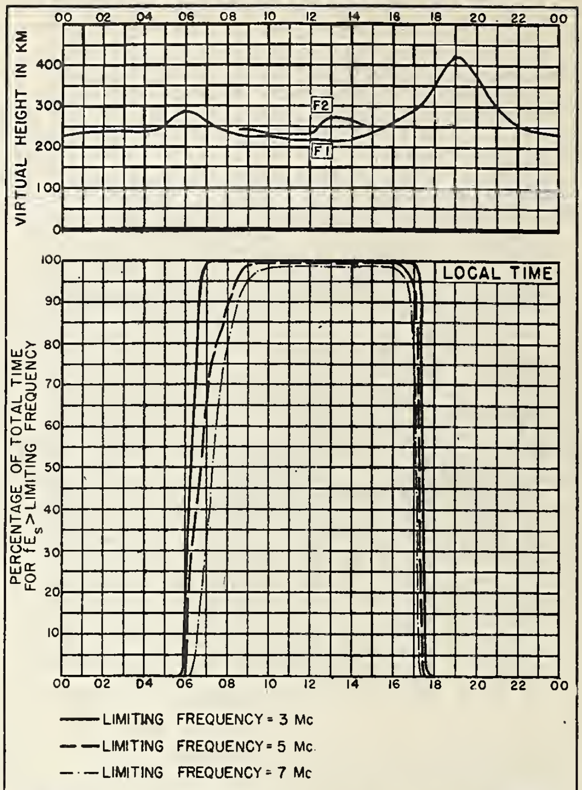

Fig. 81. HUANCAYO, PERU
MAY 1947

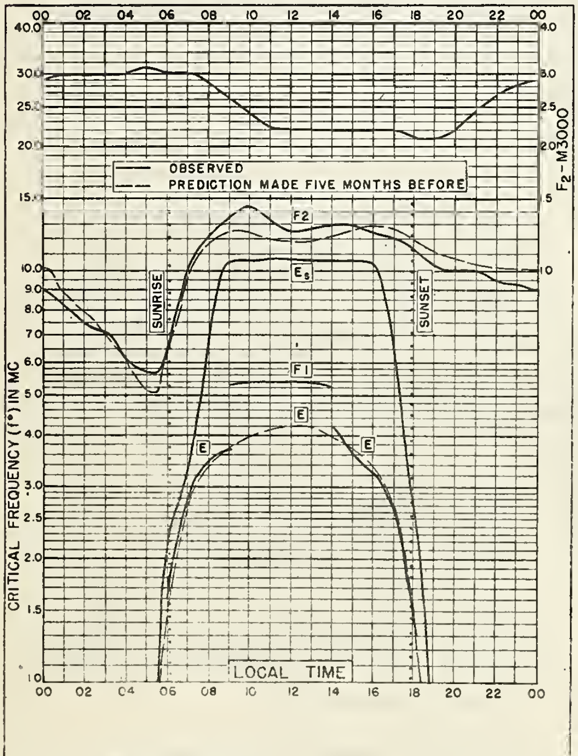

Fig. 82. HUANCAYO, PERU
12.0°S, 75.3°W
APRIL 1947

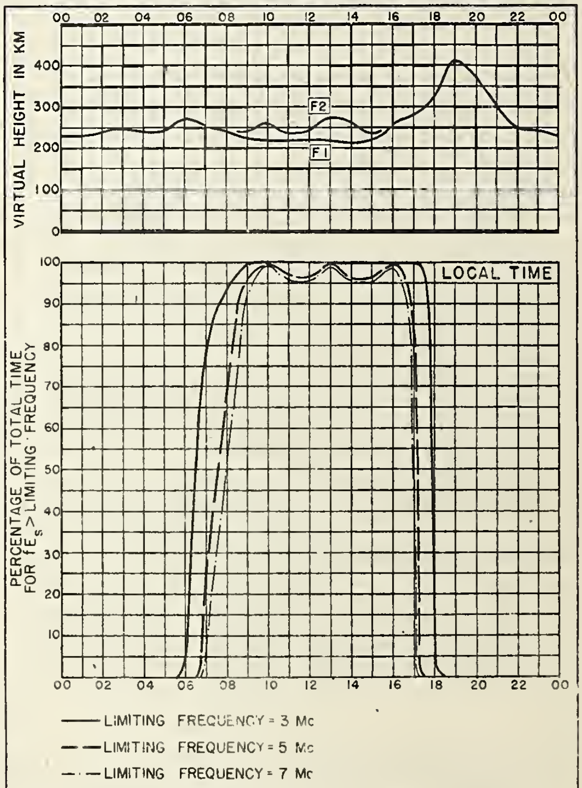

Fig. 83. HUANCAYO, PERU
APRIL 1947

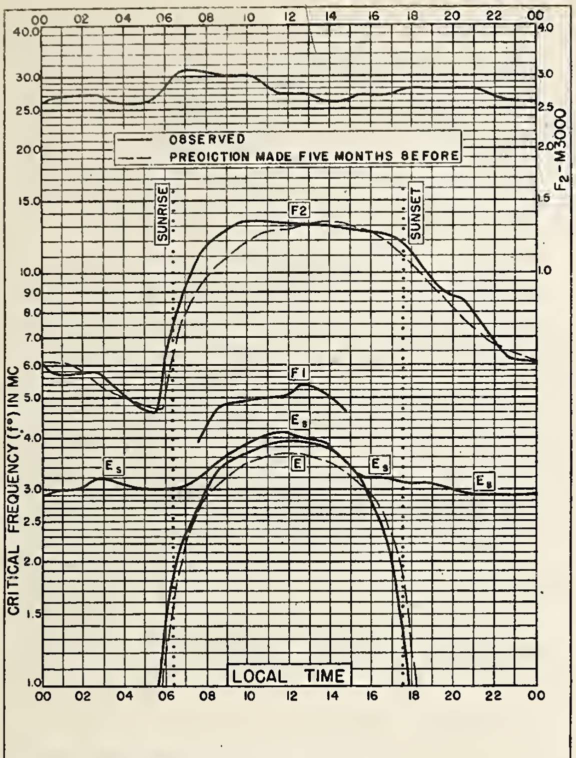

Fig.84. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E APRIL 1947

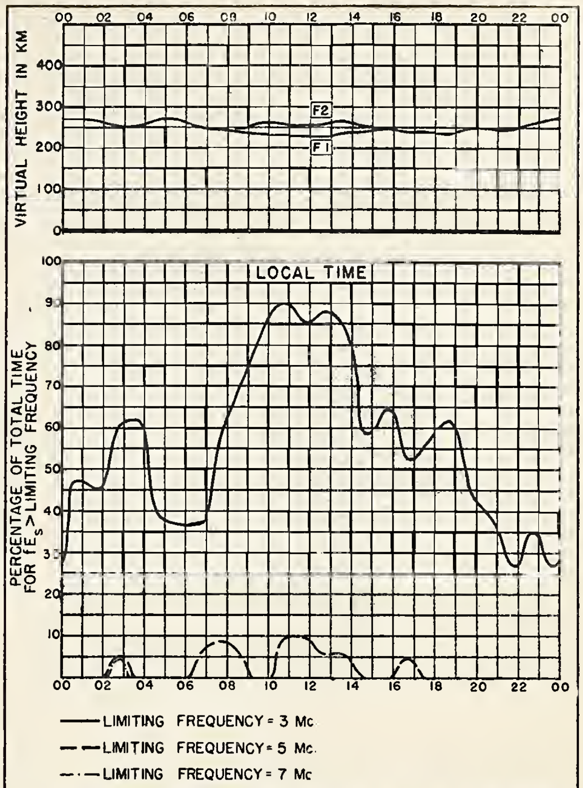

Fig. 85. WATHEROO, W. AUSTRALIA APRIL 1947

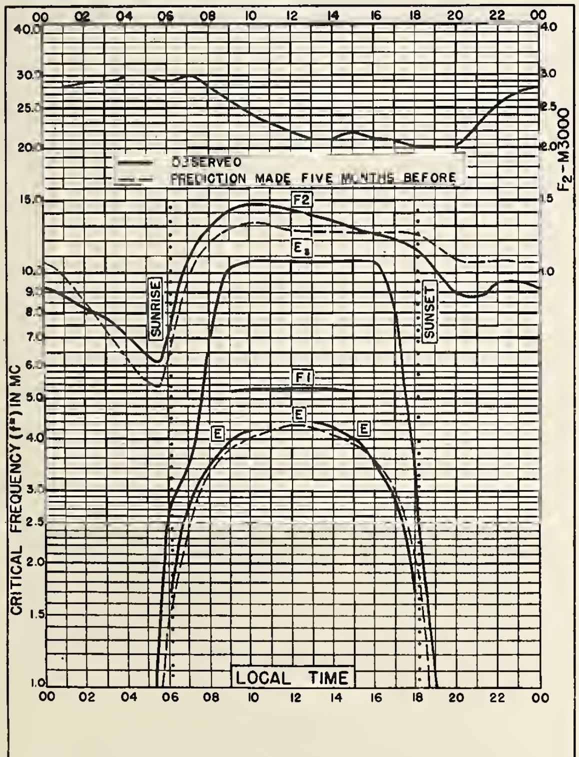

Fig. 86. HUANCAYO, PERU
12.0°S, 75.3°W MARCH 1947

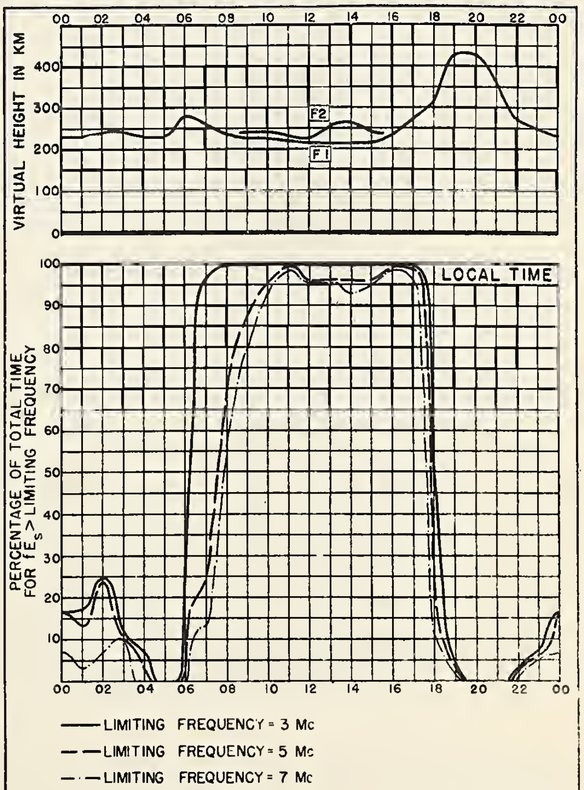

Fig. 87. HUANCAYO, PERU MARCH 1947

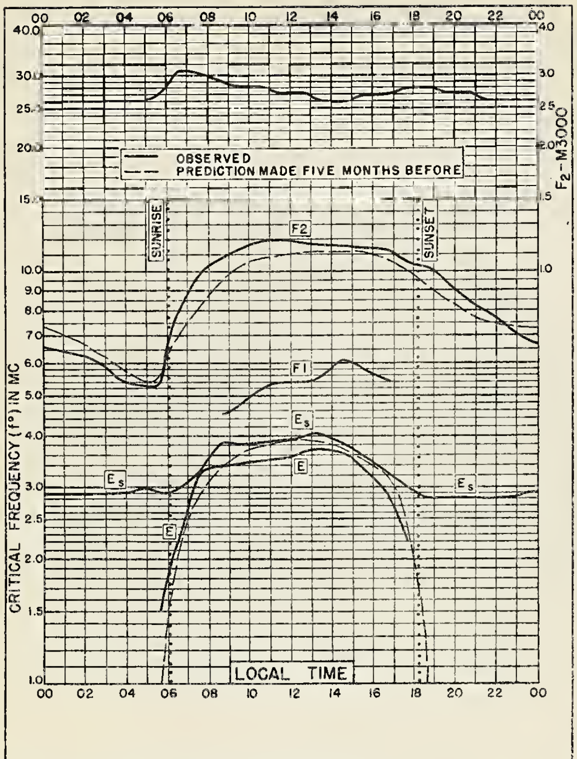

Fig.88. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E MARCH 1947

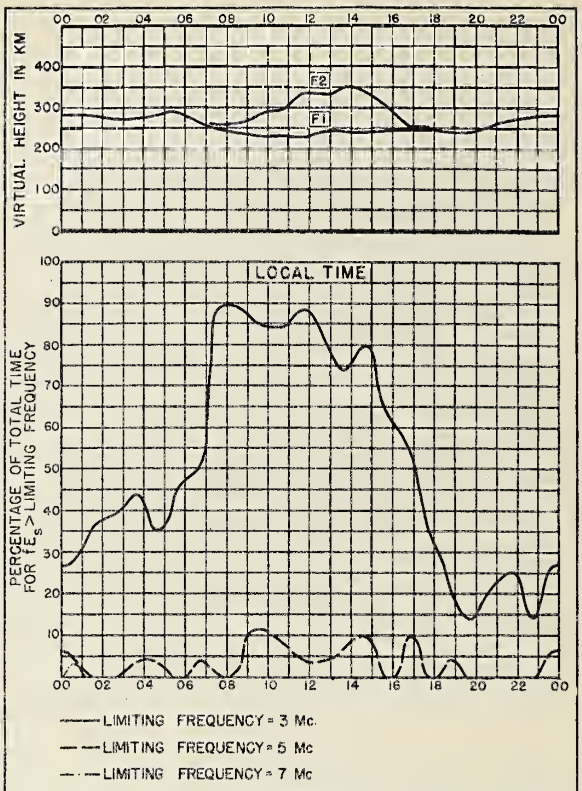

Fig.89. WATHEROO, W. AUSTRALIA MARCH 1947

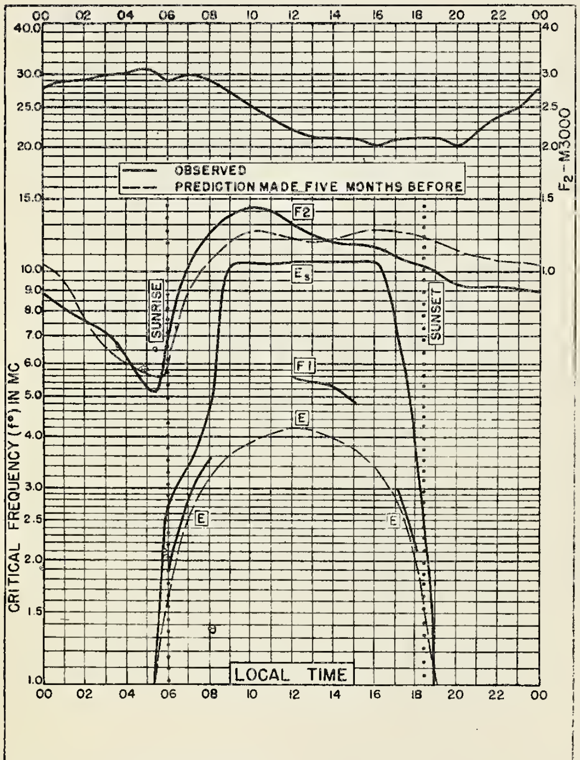

Fig. 90. HUANCAYO, PERU
12.0°S, 75.3°W FEBRUARY 1947

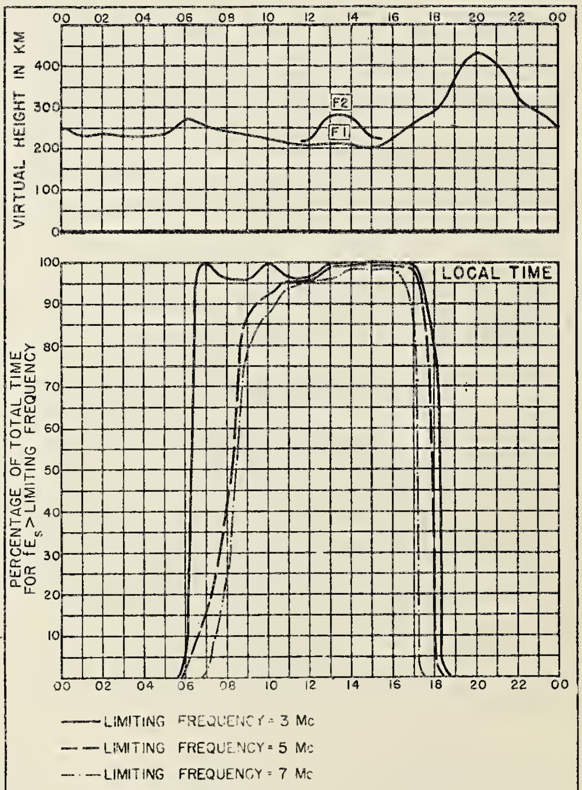

Fig. 91. HUANCAYO, PERU FEBRUARY 1947

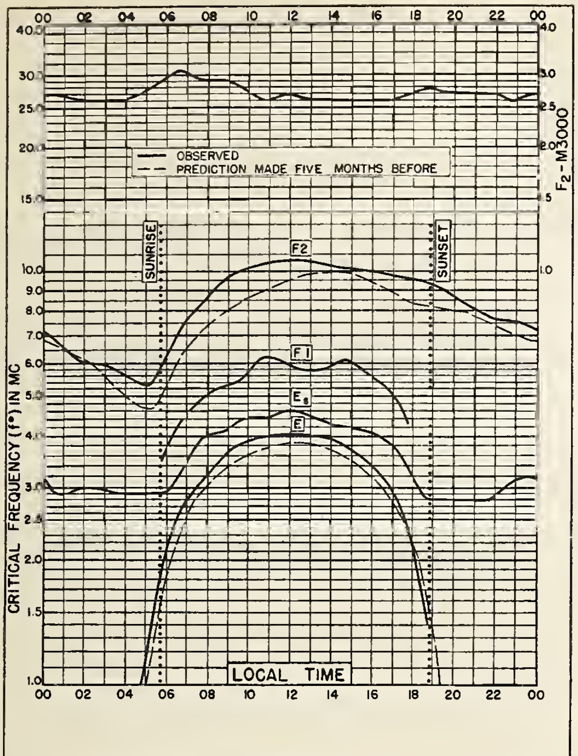

Fig. 92. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E FEBRUARY 1947

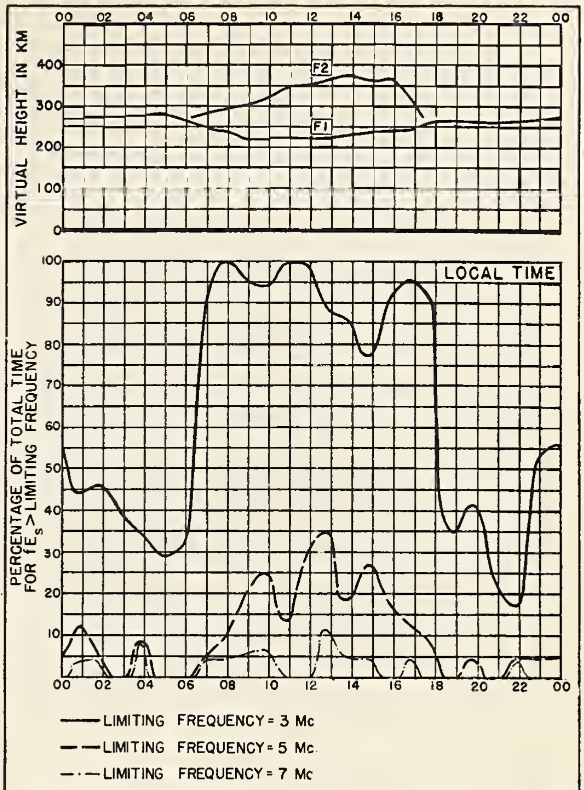

Fig. 93. WATHEROO, W. AUSTRALIA FEBRUARY 1947

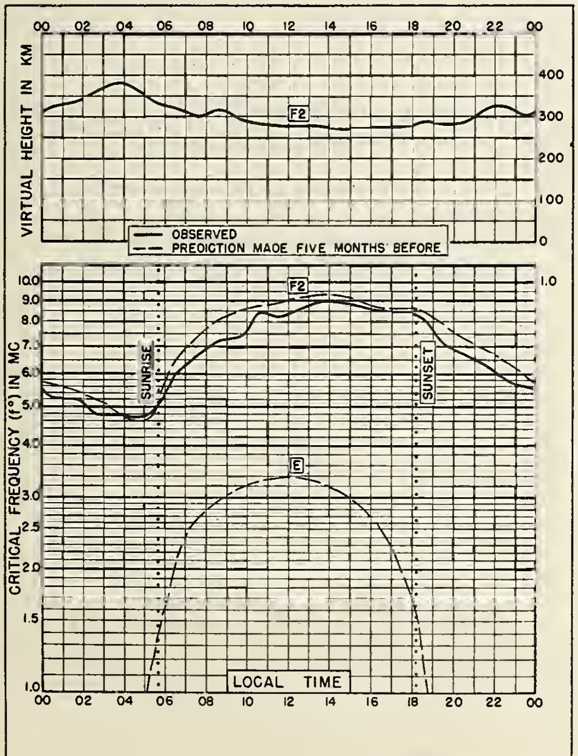

Fig. 94. CHITA, U.S.S.R.
52.0°N, 113.5°E SEPTEMBER 1946

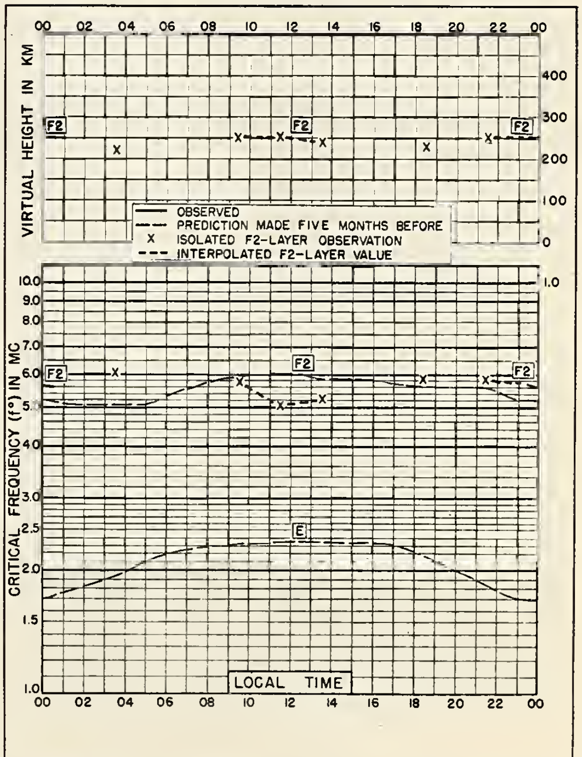

Fig. 95. BUKHTA TIKHAYA, U.S.S.R.
80.3°N, 52.7°E AUGUST 1946

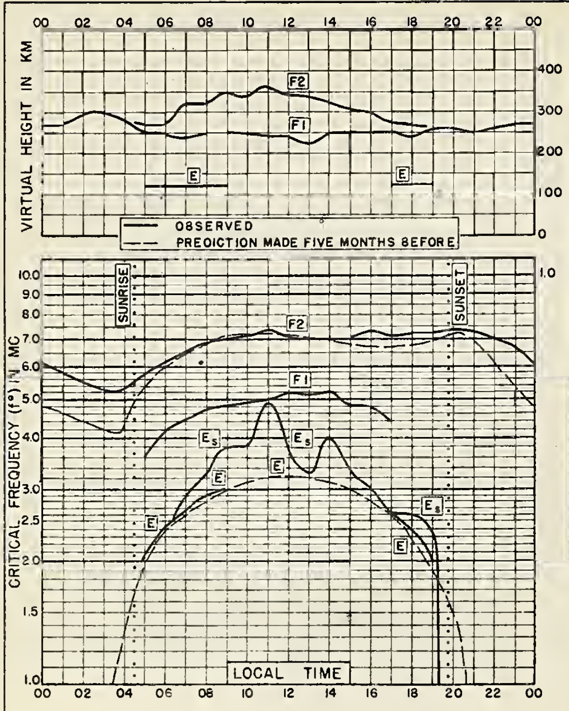

Fig. 96. LENINGRAD, U.S.S.R.
60.0°N, 30.3°E AUGUST 1946

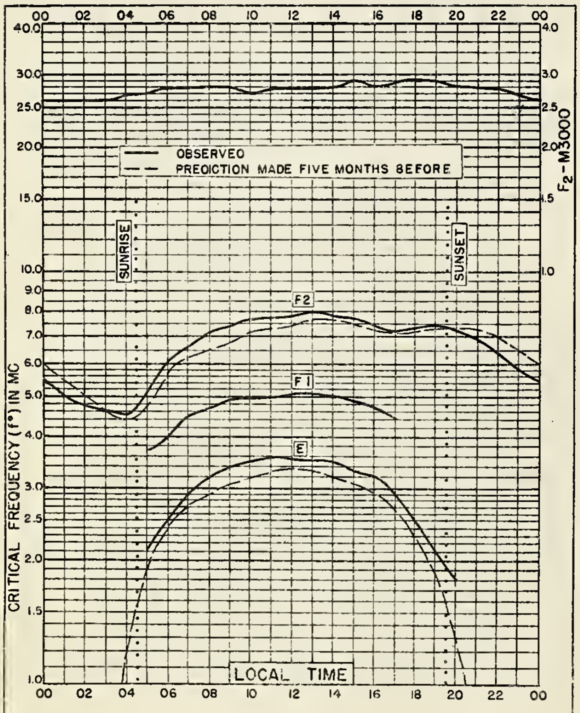

Fig. 97. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E AUGUST 1946

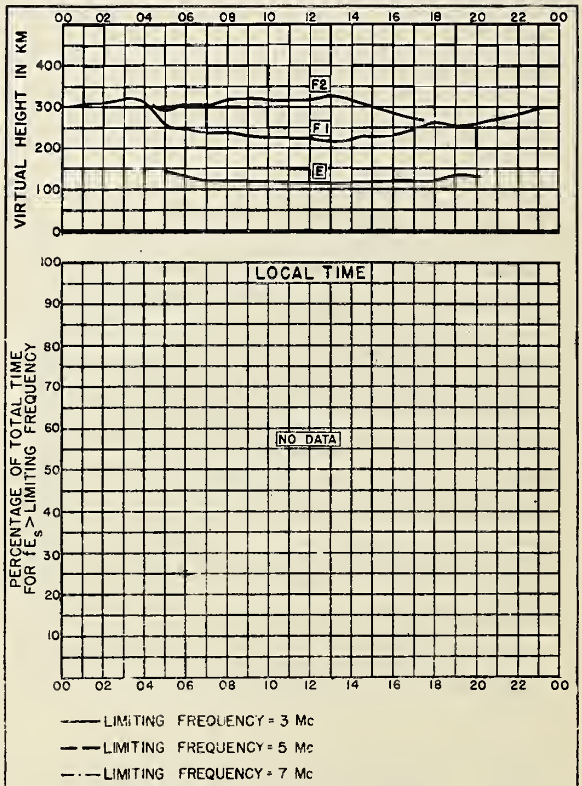

Fig. 98. SVERDLOVSK, U.S.S.R. AUGUST 1946

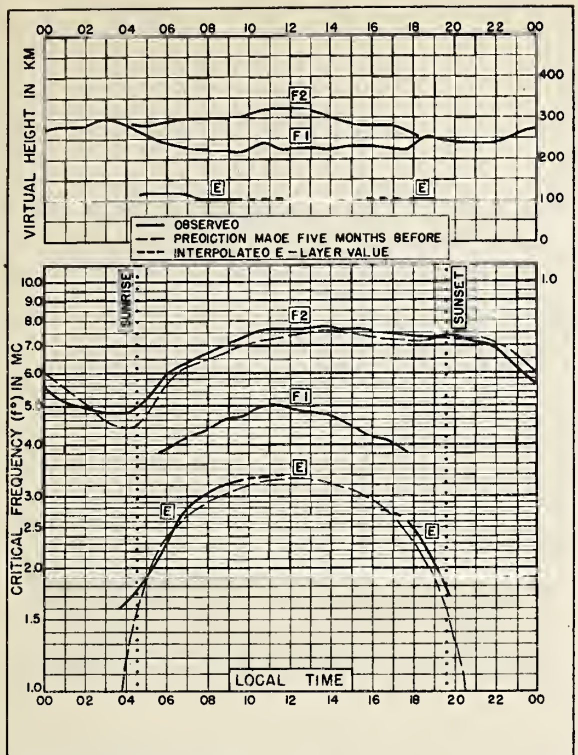

Fig. 99. TOMSK, U.S.S.R.
56.5°N, 84.9°E AUGUST 1946

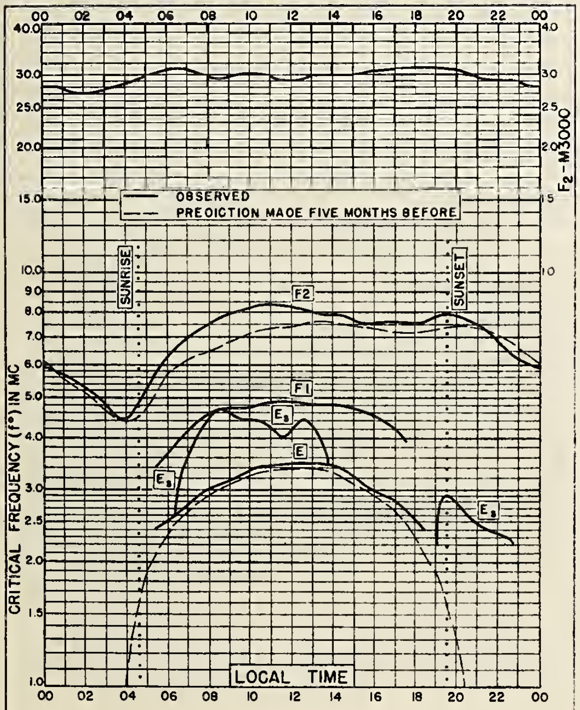

Fig. 100. MOSCOW, U.S.S.R.
55.5°N, 37.3°E AUGUST 1946

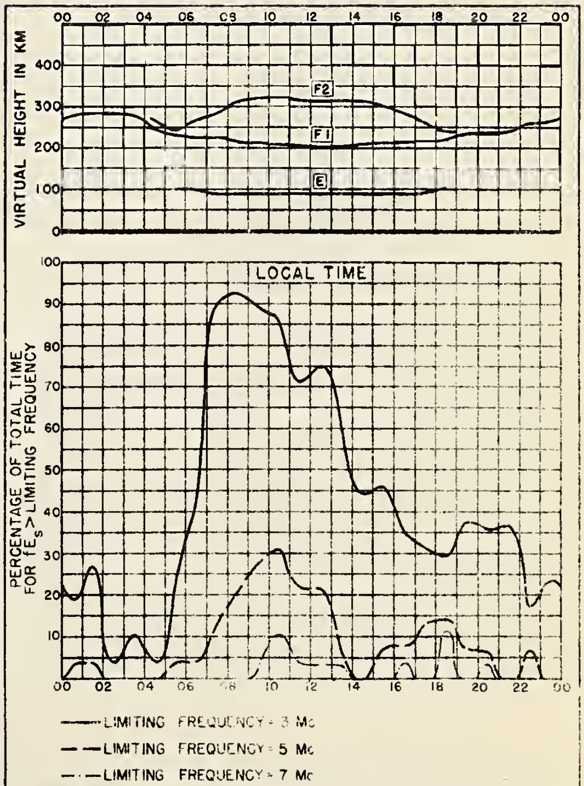

Fig. 101. MOSCOW, U.S.S.R. AUGUST 1946

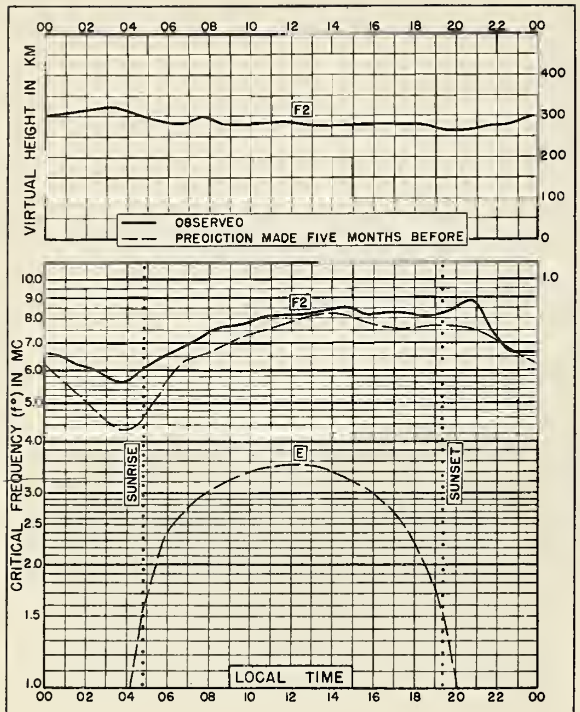

Fig. 102. CHITA, U.S.S.R.
52.0°N, 113.5°E AUGUST 1946

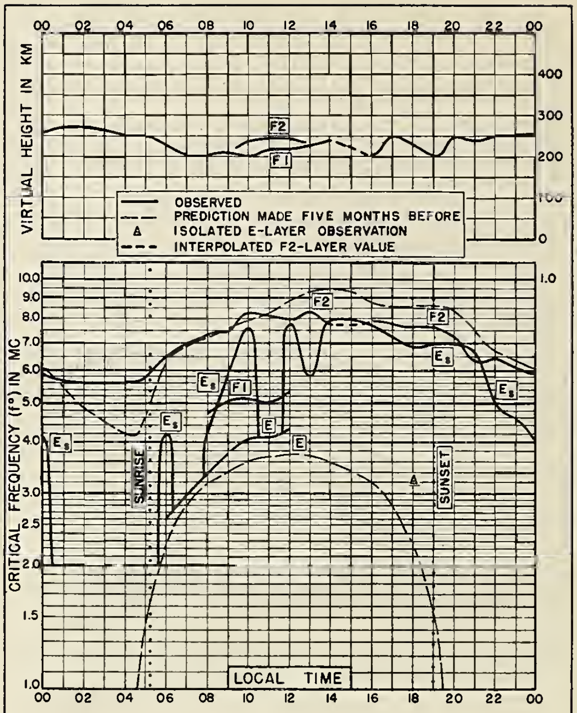

Fig. 103. ALMA ATA, U.S.S.R.
43.2°N, 76.9°E AUGUST 1946

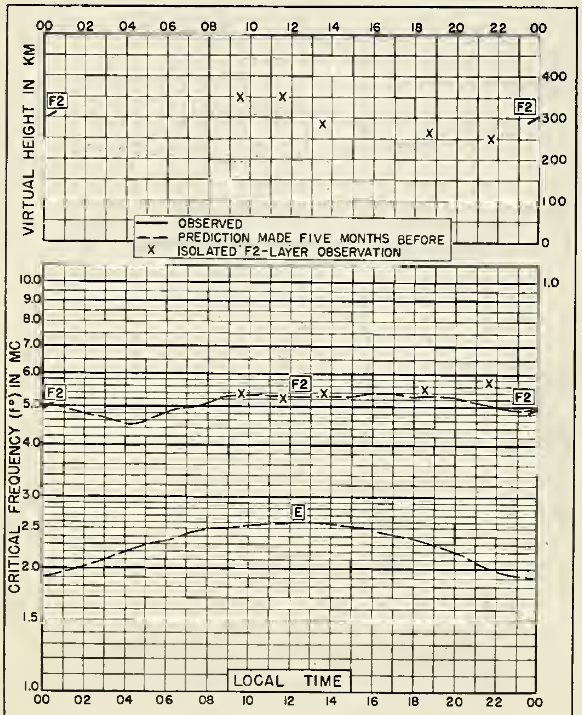

Fig. 104. BUKHTA TIKHAYA, U.S.S.R.
80.3°N, 52.7°E JULY 1946

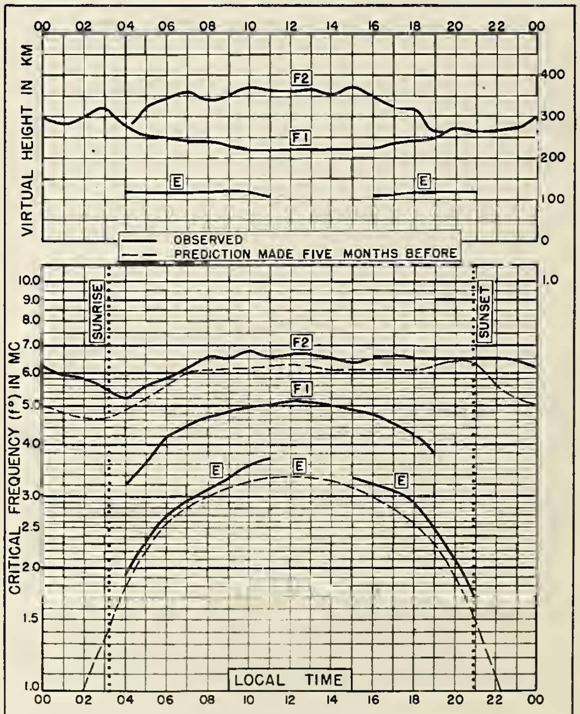

Fig. 105. LENINGRAD, U.S.S.R.
60.0°N, 30.3°E JULY 1946

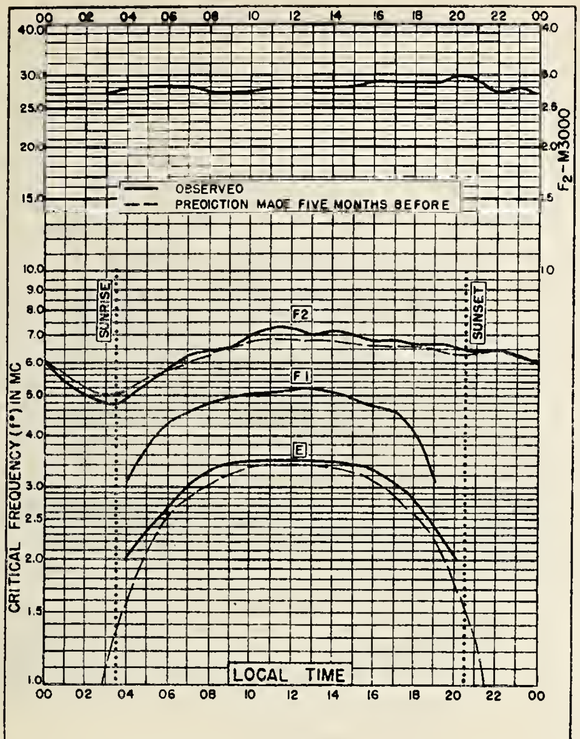

Fig. 106. SVERDLOVSK, U. S. S. R.
56.7°N, 61.1°E
JULY 1946

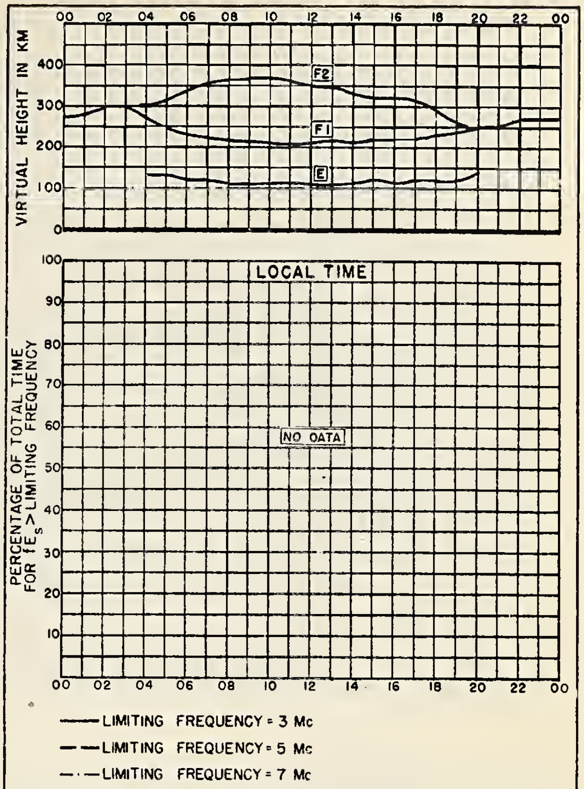

Fig. 107. SVERDLOVSK, U. S. S. R.
JULY 1946

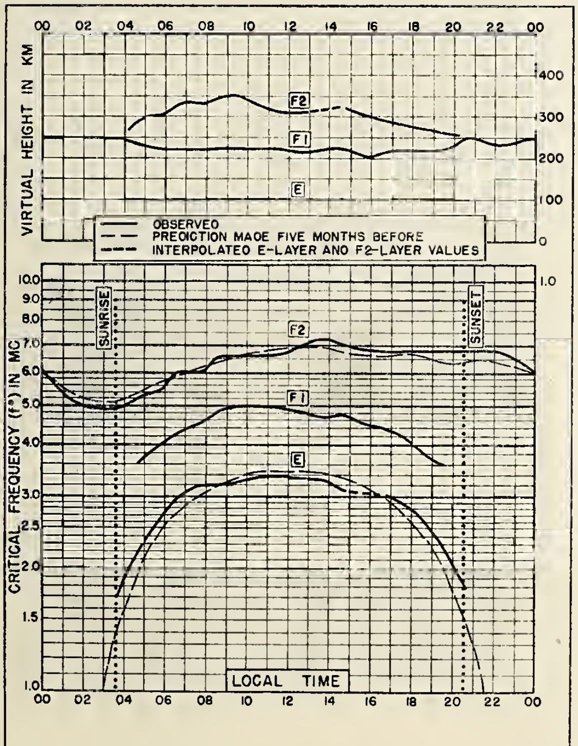

Fig. 108. TOMSK, U.S.S.R.
56.5°N, 84.9°E
JULY 1946

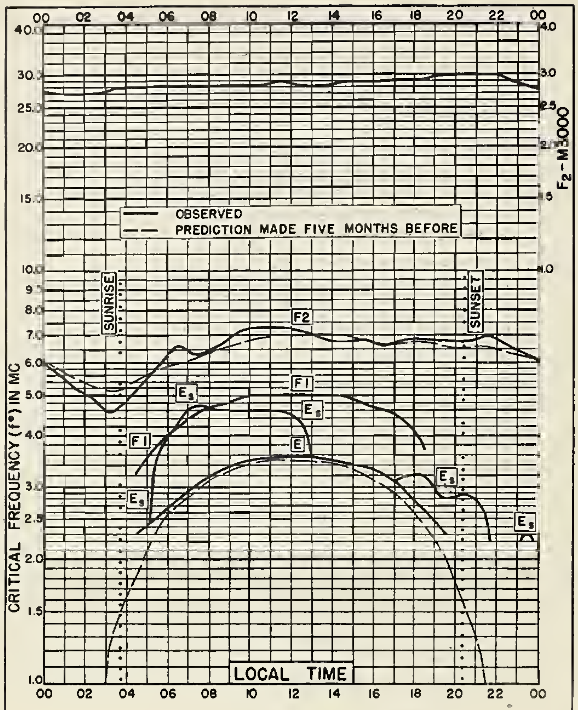

Fig. 109. MOSCOW, U.S.S.R.
55.5°N, 37.3°E JULY 1946

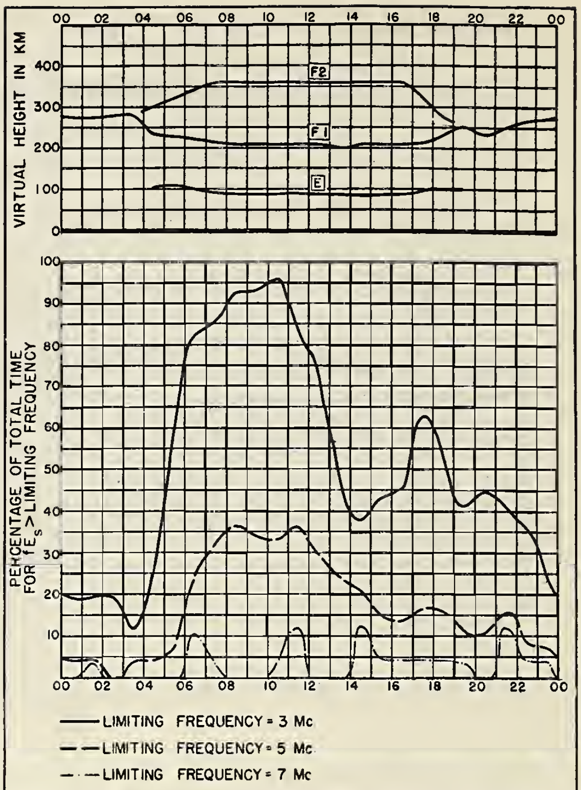

Fig. 110. MOSCOW, U.S.S.R. JULY 1946

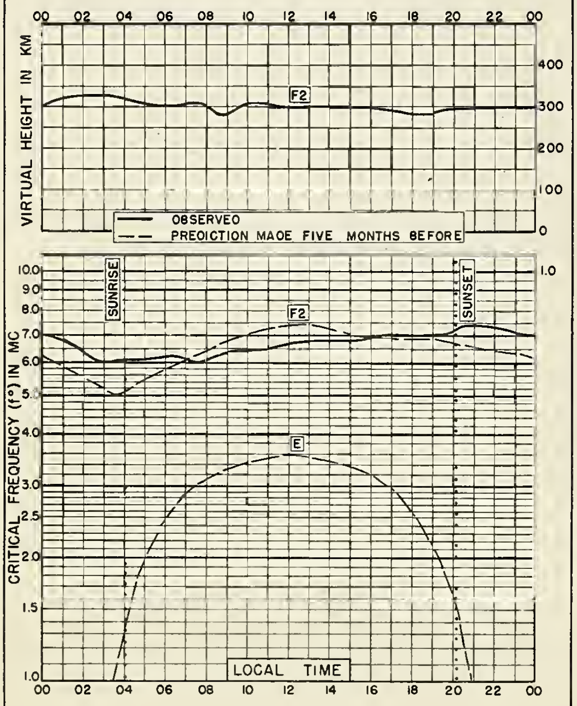

Fig. 111. CHITA, U.S.S.R.
52.0°N, 113.5°E JULY 1946

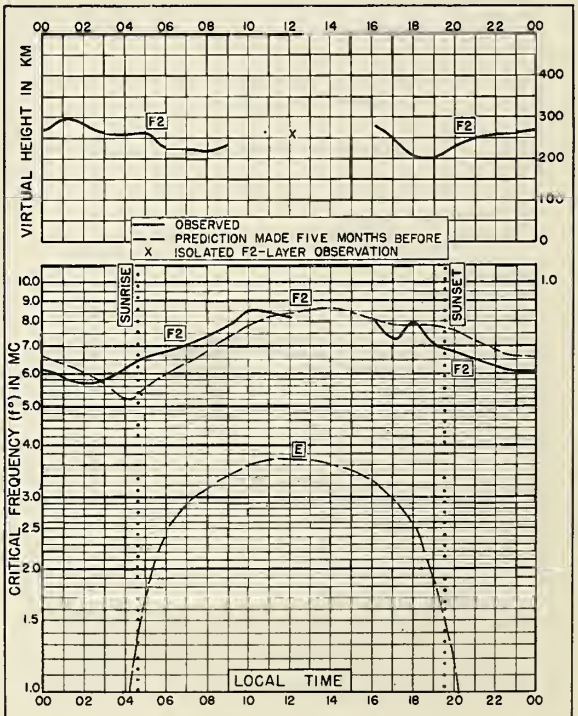

Fig. 112. ALMA ATA, U.S.S.R.
43.2°N, 76.9°E JULY 1946

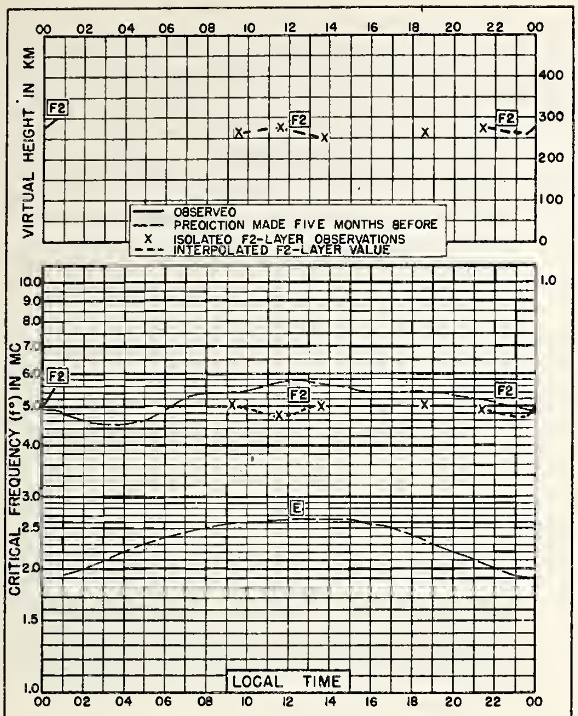

Fig. 113. BUKHTA TIKHAYA, U.S.S.R.
80.3°N, 52.7°E JUNE 1946

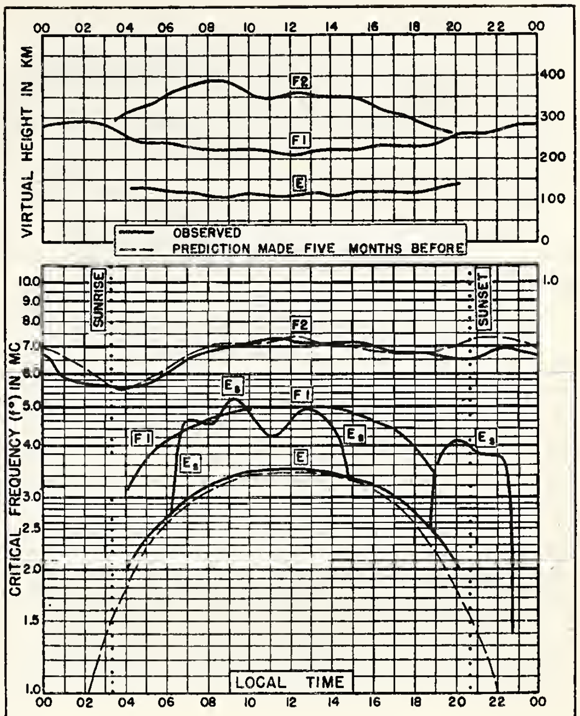

Fig. 114. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E JUNE 1946

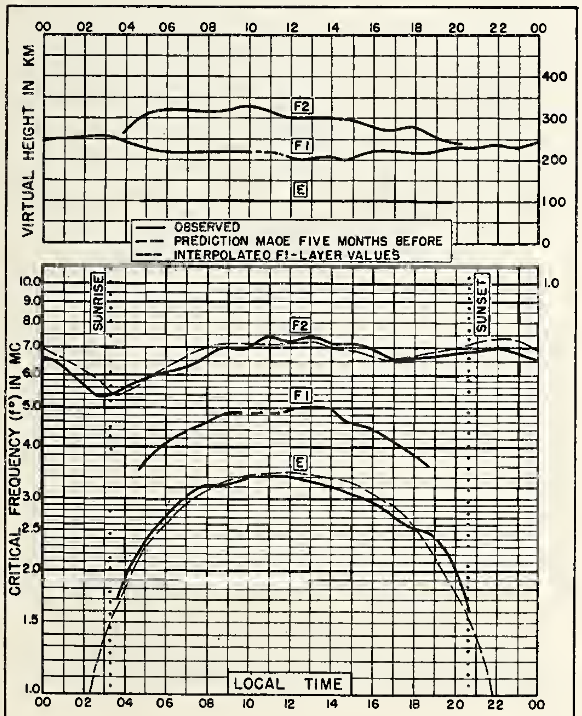

Fig. 115. TOMSK, U.S.S.R.
56.5°N, 84.9°E JUNE 1946

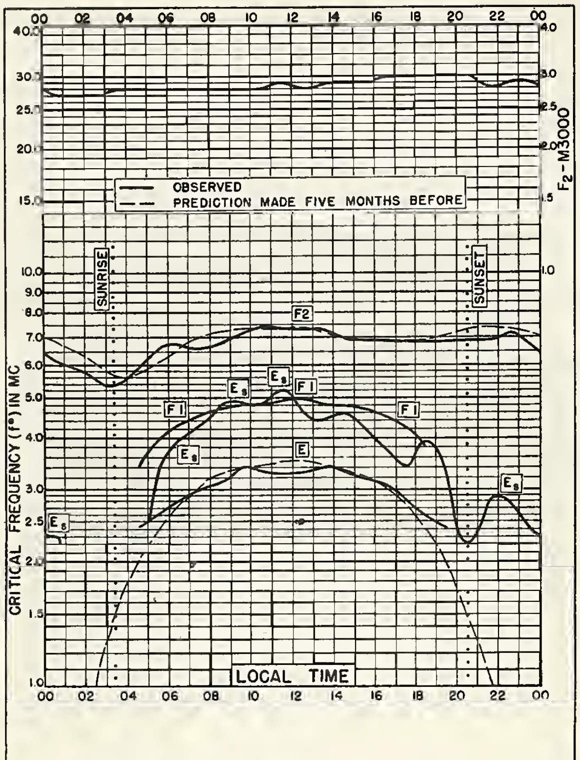

Fig. 116. MOSCOW, U.S.S.R.
55.5°N, 37.3°E JUNE 1946

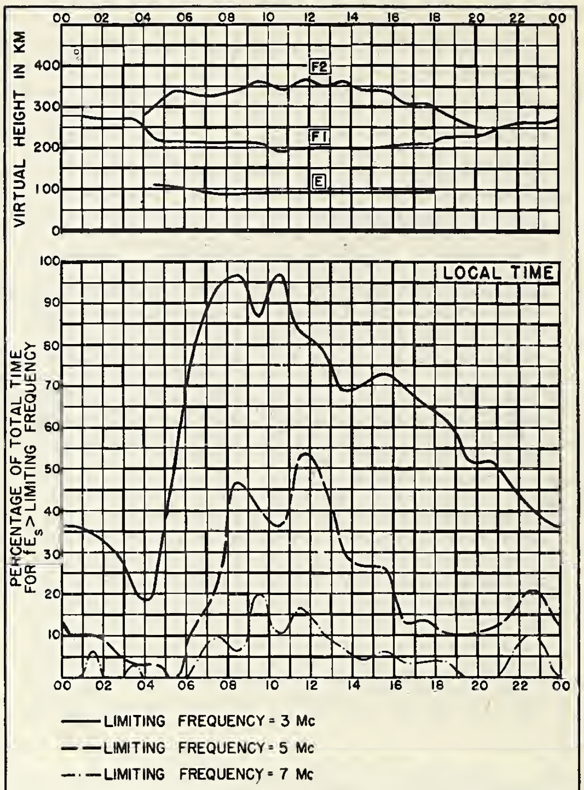

Fig. 117. MOSCOW, U.S.S.R. JUNE 1946

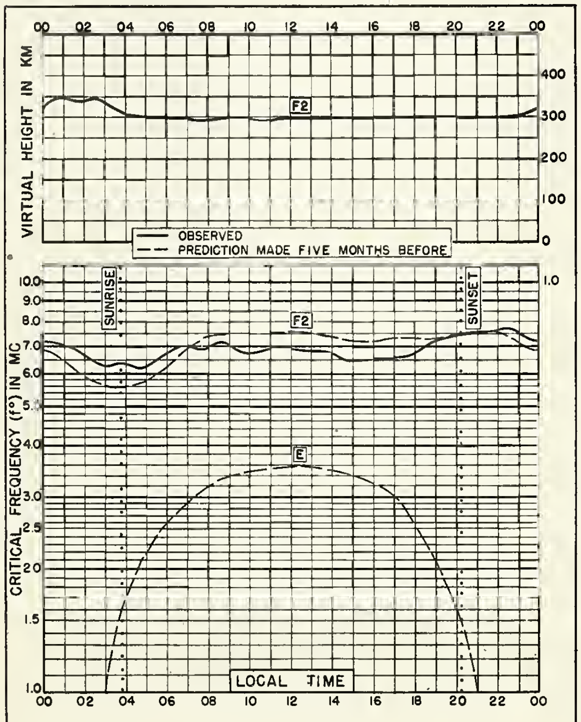

Fig. 118. CHITA, U.S.S.R.
52.0°N, 113.5°E JUNE 1946

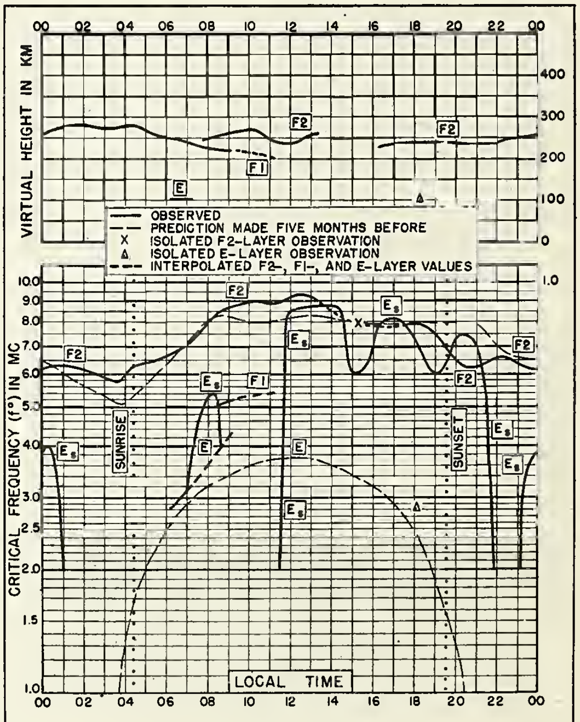

Fig. 119. ALMA ATA, U.S.S.R.
43.2°N, 76.9°E JUNE 1946

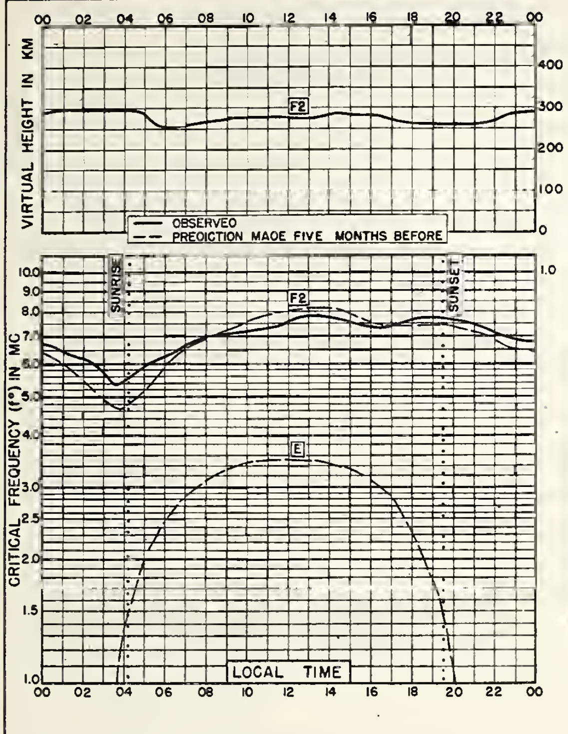

Fig. 120. CHITA, U.S.S.R.
52.0°N, 113.5°E MAY 1946

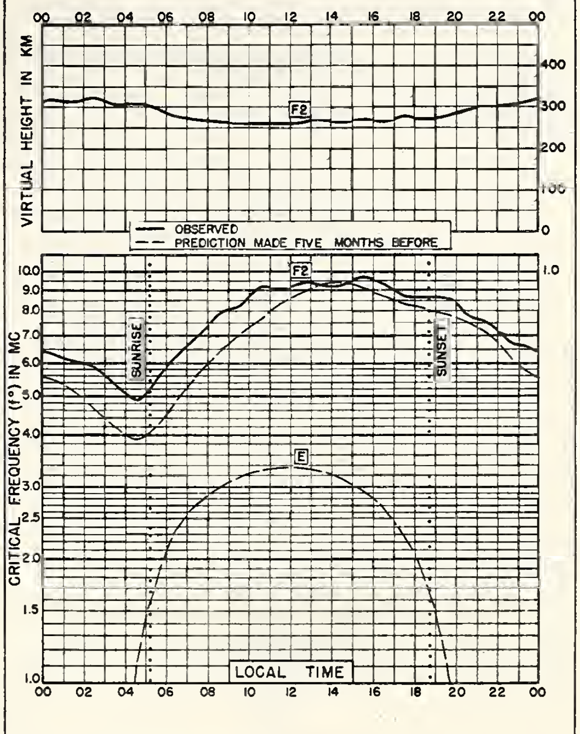

Fig. 121. CHITA, U.S.S.R.
52.0°N, 113.5°E APRIL 1946

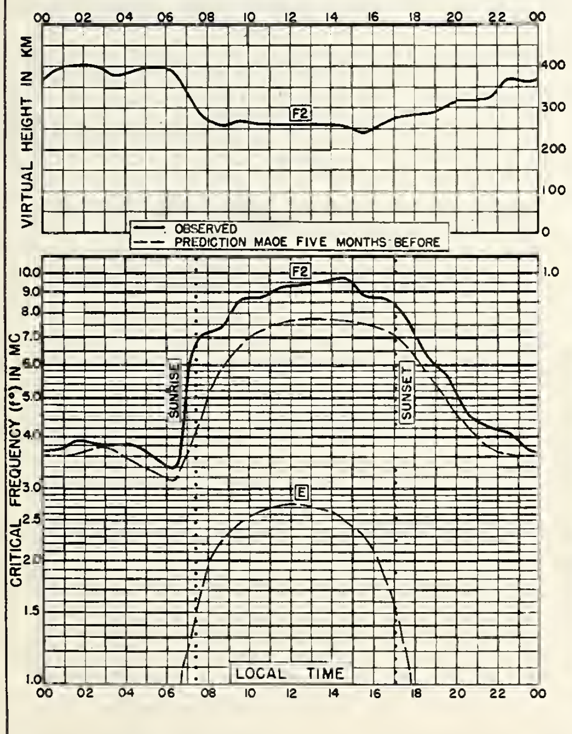

Fig. 122. CHITA, U.S.S.R.
52.0°N, 113.5°E FEBRUARY 1946

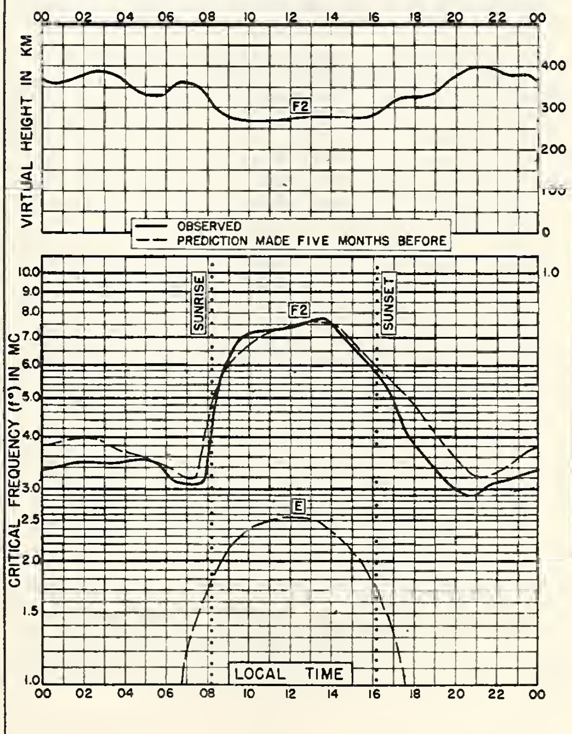

Fig. 123. CHITA, U.S.S.R.
52.0°N, 113.5°E JANUARY 1946

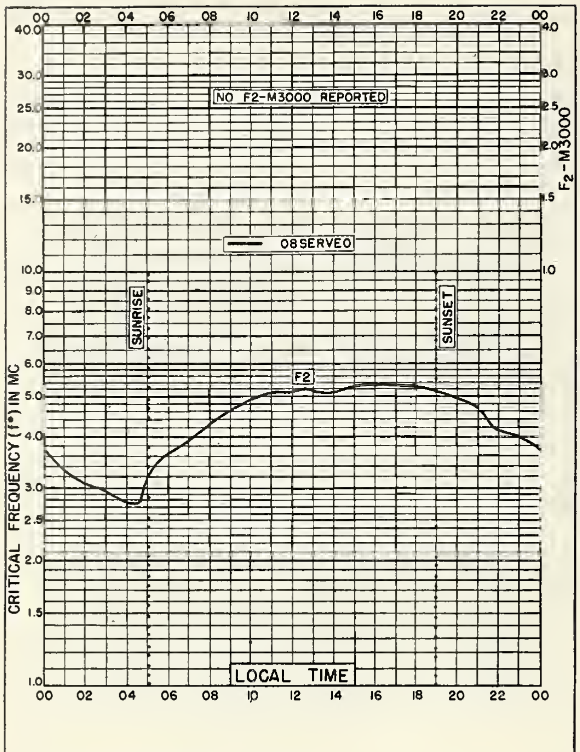

Fig. 124. BURGHEAD, SCOTLAND
57.7°N, 3.5°W APRIL 1943

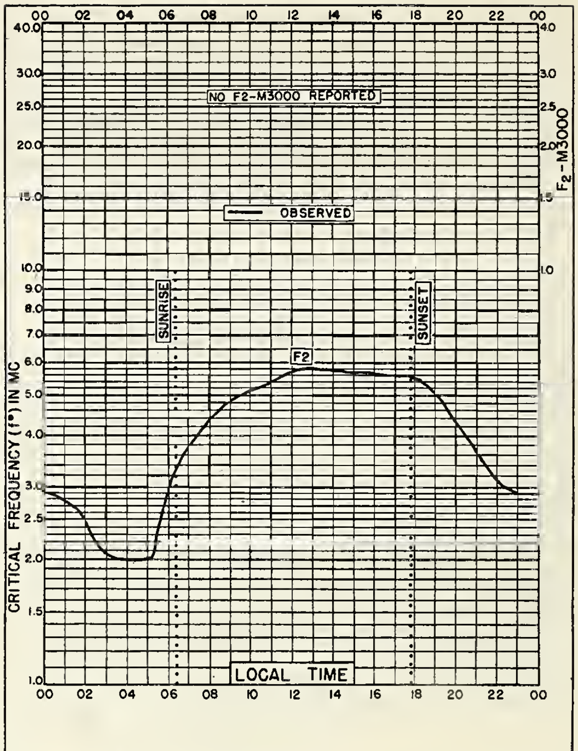

Fig. 125. BURGHEAD, SCOTLAND
57.7°N, 3.5°W MARCH 1943

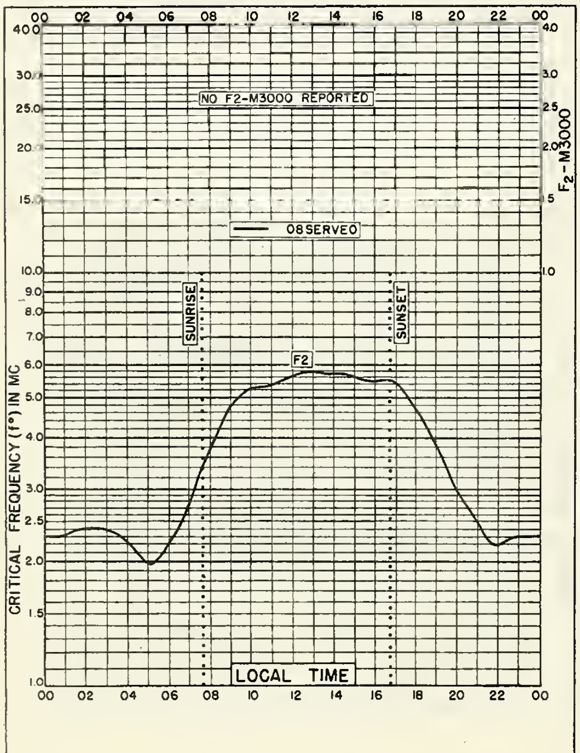

Fig. 126. BURGHEAD, SCOTLAND
57.7°N, 3.5°W FEBRUARY 1943

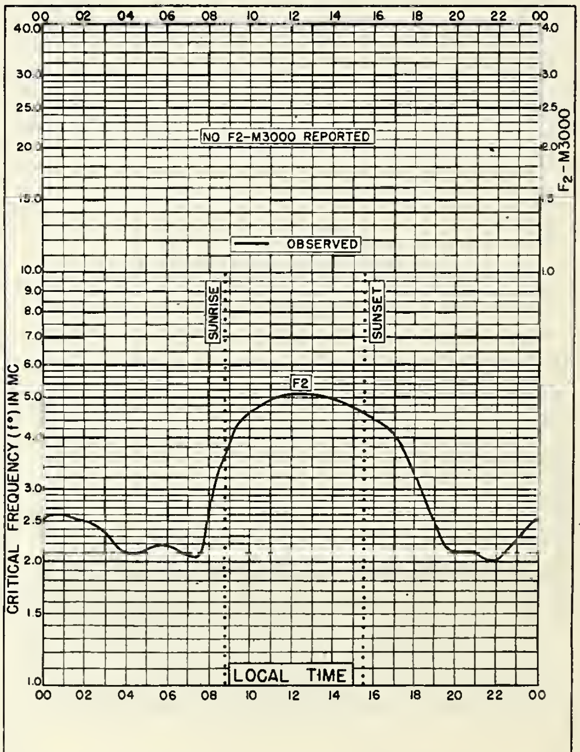

Fig. 127. BURGHEAD, SCOTLAND
57.7°N, 3.5°W JANUARY 1943

Index of Tables and Graphs of Ionospheric Data

Index (Continued)

Index (Continued)

CRPL and IRPL Reports

Daily:
Radio disturbance warnings, every half hour from broadcast station WWV of the National Bureau of Standards.
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:
CRPL–J. Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:
CRPL–Ja. Semimonthly Frequency Revision Factors for CRPL Basic Radio Propagation Prediction Reports.

Monthly:
CRPL–D. Basic Radio Propagation Predictions—Three months in advance. (War Dept. TB 11–499–, monthly supplements to TM 11–499; Navy Dept. DNC–13–1 ( ), monthly supplements to DNC–13–1.)
CRPL–F. Ionospheric Data.

Quarterly:
*IRPL–A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.
*IRPL–H. Frequency Guide for Operating Personnel.
Reports on high-frequency standards.
Reports on microwave standards.

Nonscheduled reports:
CRPL–1–1. Prediction of Annual Sunspot Numbers.
CRPL–7–1. Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records.
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:
IRPL Radio Propagation Handbook, Part 1. (War Dept. TM 11–499; Navy Dept. DNC–13–1.)
IRPL–C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.
IRPL–G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.
IRPL–R. Nonscheduled reports:
R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.
R5. Criteria for Ionospheric Storminess.
R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
R7. Second Report on Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.
R10. A Proposal for the Use of Rockets for the Study of the Ionosphere.
R11. A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics.
R12. Short Time Variations in Ionospheric Characteristics.
R14. A Graphical Method for Calculating Ground Reflection Coefficients.
R15. Predicted Limits for *F*2-layer Radio Transmission Throughout the Solar Cycle.
R16. Predicted *F*2-layer Frequencies Throughout the Solar Cycle, for Summer, Winter, and Equinox Season.
R17. Japanese Ionospheric Data—1943.
R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.
R19. Nomographic Predictions of *F*2-layer Frequencies Throughout the Solar Cycle, for June.
R20. Nomographic Predictions of *F*2-layer Frequencies Throughout the Solar Cycle, for September.
R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)
R22. Nomographic Predictions of *F*2-layer Frequencies Throughout the Solar Cycle, for December.
R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.
R24. Relations Between Band Width, Pulse Shape and Usefulness of Pulses in the Loran System.
R25. The Prediction of Solar Activity as a Basis for Predictions of Radio Propagation Phenomena.
R26. The Ionosphere as a Measure of Solar Activity.
R27. Relationships Between Radio Propagation Disturbance and Central Meridian Passage of Sunspots Grouped by Distance From Center of Disc.
R28. Nomographic Predictions of *F*2-layer Frequencies Throughout the Solar Cycle, for January.
R29 and 29–A. Revised Classification of Radio Subjects Used in National Bureau of Standards and First Supplement (NBS Letter Circular LC–814 and Supplement, superseding Circular C385).
R30. Disturbance Rating in Values of IRPL Quality-Figure Scale From A. T. & T. Co. Transmission Distrubance Reports to Replace T. D. Figures as Reported.
R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.
R32. Nomographic Predictions of *F*2-layer Frequencies Throughout the Solar Cycle, for February.
R33. Ionospheric Data on File at IRPL.
R34. The Interpretation of Recorded Values of *fEs*.
R35. Comparison of Percentage of Total Time of Second-Multiple *Es* Reflections and That of *fEs* in Excess of 3 Mc.
IRPL–T. Reports on Tropospheric Propagation.
T1. Radar operation and weather. (Superseded by JANP 101.)
T2. Radar coverage and weather. (Superseded by JANP 102.)
CRPL–T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG–5.)

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